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PSYCHOLOGY OF HUMAN

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Psychology of Human Behaviour for Nurses

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PREFACE

In acknowledging indebtedness, I must begin with the readers of the earlier editions of *Psychology of Human Behavior for Nurses*. Without their comments, criticisms and suggestions, this third edition could not have been accomplished.

I have tried to incorporate as many of these suggestions as possible consistent with retention of the aim and point of view of the text, which is directed toward serving as a practical introduction to psychology for students of nursing. Every effort has been made to keep the subject material functional, to provide information which the young student may be able to put to immediate use as she moves through her clinical services.

The most numerous suggestions pointed toward a less cursory treatment of learning. The new edition devotes three chapters to this subject. A frequently expressed criticism of the arrangement of subject matter has been accorded recognition by division of the text into sections, with the aim and preview of each section on a title page. The sections on heredity and maturation have been expanded, also in response to reader comments. A summary follows each chapter, together with the references and suggested readings. I have cited a number of inexpensive paperbound editions, knowing well the budgetary limitations of many libraries. Attention is also called to the professionally written, highly readable pamphlets listed at the back of the book.

The manuscript was written in Venezuela, where the Dennis family is residing for two years. This has necessitated unusual cooperation from the publisher in sending materials which could not be obtained here.

I have had the invaluable assistance of four young critics, Kathleen Spalding, Mrs. Barbara Voler and Patrick and Brian Dennis, the latter, my two older sons. They read large portions of the manuscript and were relentless in pressing for clarity of concepts and orderly progression from topic to topic.

Mrs. Frances Goodwin has provided the witty and insightful sketches. Also, to her skilled blue pencil goes much credit for whatever readability the manuscript obtains. Mrs. Sally Close once more accomplished the proficient typing of the final draft. The organization and concepts of chapter one originated with a course taught by Dr. Alberta Engvall Siegel.

Finally, the family of any author must make do with divided attention and preoccupation during days of intensive writing. My family did this with patience and forbearance. I am deeply grateful to the children and especially to my husband for his constant encouragement.

Caracas, Venezuela LORRAINE BRADT DENNIS

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INTRODUCTION: A NOTE TO THE STUDENT

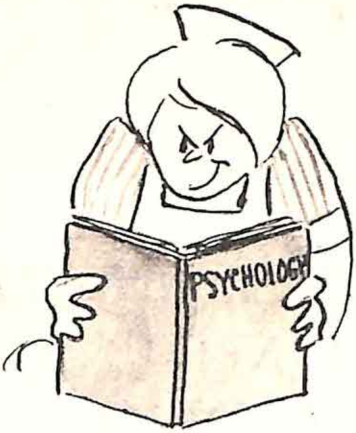
Let us begin with a word about expectations. Students generally tend to embark on an introductory course in psychology with high hopes of acquiring practical, how-to-do-it information in terms of their own lives and for managing their interpersonal relationships. It would be a rare student these days who could reach college age without some notion, acquired from movies, television and periodicals, as to what psychology "is about."

Unhappily, the popularized version of psychology that is held most widely and hardest to dispel is the idea that if one only knew some of psychology's magic secrets, it would be much easier to cope with the perverse behavior of others. Frequently this is just a euphemistic way of stating the proposition that, perhaps, if one knew a little more psychology, one would be able to attain one's own ends more often.

The possibility of "using psychology" to manipulate others has been given broad currency. Father wonders about the "right psychological moment" to approach the boss for a raise in pay. Mother worries about the "proper psychology" for dissuading Miss Teen-ager from some ill-considered venture. The salesman attributes his sale of an expensive automobile to "using the psychology of status" on a hapless customer.

Of course knowledge, properly employed, can be useful in daily life. But we do not ordinarily say we are "using physics" when changing an automobile tire, although application of the principles of leverage may prevent a misuse of the jack. Nor is it common to refer to "using bacteriology" when aseptic procedure is followed.

In the same vein, understanding something of the regularities underlying human behavior may indeed assist our transactions with others. But



If only one knew a little more psychology, perhaps . . . ?

to expect the study of psychology to supply a system of stratagems for obtaining our own way is to be foredoomed to disappointment.

Enough of what psychology is *not*. Let us inquire on a more positive note. With what, then, *is* psychology concerned? What is its importance?

Psychology is usually defined as the scientific study of human behavior. In the first chapter of this book we will explore the meaning of this definition more fully. Here, let it suffice to say that of all human pursuits, man's attempts to explain himself to himself seem to be among the most engrossing. Man's interest in his own behavior and that of those around him seems to be a fundamental aspect of the human condition.

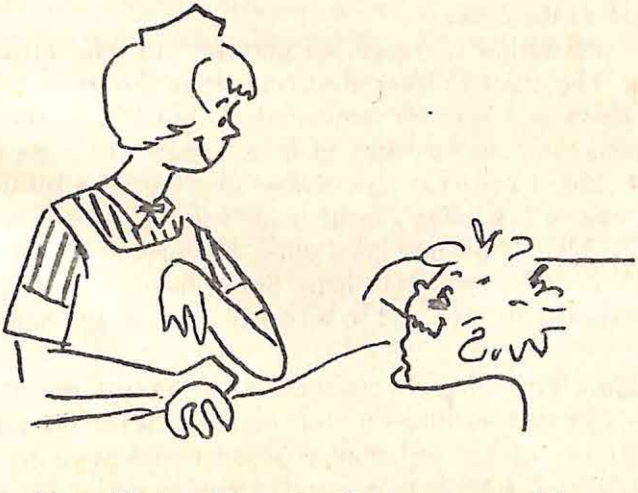
The psychologist shares his interest in human behavior, therefore, with many others; with poets and philosophers, with journalists and politicians, with anthropologists and economists, with historians and novelists, and, of course, with Mr. Everyman himself. The psychologist brings to his undertaking, however, a very particular point of view. He is bound by the rules governing scientific inquiry. This means, as we will discover, that many statements in psychology are couched in terms which seem unnecessarily equivocal to those who like their guidelines firm and simple.

This book will attempt to detail some of psychology's contributions to the fund of human knowledge. It will attempt to introduce the student to the approach used by the psychologist in his study and to the evidence which supports his cautious assertions. It is quite likely to raise more questions than it answers, but perhaps this will open new paths and byways along which the student may continue the search for understanding.

The stake of the student nurse in this venture is a large one. She has chosen a profession which is of keystone importance in a complex system of human relationships. She must wend her way daily through a maze of dealings with doctors, with supervisors and instructors, with maids and aides and orderlies, with classmates, with hospital administrative personnel. Even more important, she is the individual most intimately associated in day-to-day contacts with the patient, so that upon her rests heavy responsibility for building and maintaining an association which will promote his well-being. The nurse, in her professional capacity, will see more than her share of anxiety, hostility, sorrow, anger, fear—the raw edges of human emotions. She will be called on to be an understanding teacher and a wise listener. Frequently she will have to "read between the lines"; she should know that behavior is not always what it seems.

At the same time, she will be living in a world whose outlines can already be dimly seen. Within the next twenty years, we are told, almost three quarters of the population of the United States will reside within the expanded metropolitan areas extending from core cities. The impact of urban life on a people whose habits of thought are still running in patterns better suited to a more rural society promises stress and tension as well as challenge. We can expect altered traditions of work as machines take over more and more of what is now performed by man. There will be strife and trouble as minority groups in our own land seek true freedom of opportunity, and as entire peoples in other lands catch a glimpse of and reach for what has been denied them for so long. The family itself, which has been society's fundamental institution, seems likely to undergo changes in both form and function. Old and comfortable securities will be shaken. All this will demand an inner "gyroscope" which can absorb the changes and yet maintain a certain stability.

The search for understanding of human behavior might be likened to a huge, never-finished jigsaw puzzle. The study of psychology can supply some of the pieces. Other portions can be filled in from one's life experiences, from continuing education, from reading and listening and observing, from attending to the wisdom gathered during the ages and maintaining an interest in what is yet to come. None of us will complete



The well-being of the patient is a prime responsibility.

the picture, not even with the application of a lifetime, but it is a task which is worthy of a lifetime's effort!

How to Study

There are few areas of how-to-do-it information where the psychologist can speak as authoritatively as the one concerned with developing efficient methods of study. Sadly enough, while they may pester him for advice on all kinds of personal affairs, not many students take the psychologist's counsel on how to study very seriously. Yet most failures in the pursuit of the kind of knowledge required in college or nursing courses result from inadequate study techniques.

If you are managing your own course work with skill and confidence, read no further. You have probably developed good study habits. However, if examination week finds you in a state of frazzled nerves and panic, if a good grade is a matter of "luck" and poor ones are to be expected, you *can* help yourself. Systematic investigations of learning have provided a rather clear-cut blueprint for studying if the student will only make use of such assistance.

A catchy, capsule formula for learning has been suggested by two psychologists named Neal Miller and John Dollard. According to Miller and Dollard, in order to learn an individual must:

1. Want something
2. Notice something
3. Do something
4. Get something

Motivation. "Wanting something" has to do, of course, with motivation. Every student is aware of doing better in courses that he likes and less well in a course that he dislikes. Motivation is higher when there is an active interest in the course.

Though motivation is crucial, an outsider can offer little help with this problem. The desire to learn must come from the student. Wanting a good mark serves as a spur for some students but leaves others relatively unmoved. Sometimes an inventory of overall goals will point up the fact that present subject matter is an essential step toward a future objective.

In any case, a beginning can be made with an earnest resolve to exchange old bad habits for new good ones. The maxim "Nothing succeeds like success" is quite applicable here. Study habits which increase proficiency and confidence will lead to increased interest, and hence, to better motivation.

Attention. The would-be learner must "notice something." This refers to the fact that learning can only occur when the individual attends to some element of his situation as distinct and separate from other elements. Attention and the focusing of attention are the key factors here.

It is possible to learn to attend, to build a habit which will direct attention to study materials. Like any habit, it involves a routine, doing the same thing over and over again, until the pattern becomes firmly fixed.

First of all, there should be a definite place for study, preferably a desk with a good light. It might be in the library, it might be in your room. But for the time being, study should always take place at the selected spot. Don't curl up in a chair for one session and stretch full length on the bed for another; if the specific elements of the situation are to come to mean "study," there must be a certain sameness about the situation.

Furthermore, the time for study must be regular and consistent. Formation of a study habit demands that a definite portion of every day be set aside for studying. This requires advance planning so that nothing is permitted to interfere with the time allotted for this purpose. During the habit-forming period, you must live according to a schedule. Arrange for washing of hair and hose, writing that letter home and conversing on the telephone to be accomplished during another portion of the day. If this seems to be impossibly rigid, remember that it is the formation of an efficient study habit which is of chief importance now. When the habit becomes a built-in part of your routine, and when you are achieving at a good, steady level in all subjects, you can afford to relax a little.

Attention is impeded by distractions. If you are trying to study with one ear tuned to the fascinating conversation in the hall, little learning is likely to be accomplished. If the dance tune on the radio leads to reverie about Friday night's date, it is distracting. Sometimes it is difficult to concentrate because of other matters pressing for attention—mustn't forget to pay Lois the quarter I owe her . . . need to press my skirt before tomorrow . . . wonder if Mary Sue returned my book to the library . . . mustn't forget to tell Nan that Joe called. In such case it is a good idea to jot these down for later reference and free one's mind, for the time being, of irrelevant thoughts.

Response. The learner must *do* something. The more actively the student is involved in the study situation, the more effective is the learning.

Many students having study difficulties are found to be reading the same material over and over again, without ever stopping to check what they have learned or failed to learn. The mechanical, unthinking operation may have the outward appearance of study—indeed, these students insist that they study very hard—but the actual participation of the student is minimal.

How do you become "involved" while studying? One method is by means of a device termed "self-recitation." After reading it, you put the text aside and attempt to outline the important points from memory. Omissions are checked with a second reading, and again an outline, which ought to be more comprehensive this time, is done from memory. Read, close the book, outline the material and then re-read. This procedure is followed until a rather complete outline can be accomplished without reference to the text.

Another method is to draw up a list of questions during the first reading. Then attempt to answer these without looking at the book. Or two people, working together, might quiz each other. Beware of the temptation to indulge in chit-chat on the side, however, when working with a partner!

For material which must be memorized by rote (such as lists of drug dosages, the medical abbreviations, vocabulary or the origins and insertions of muscles of the body) a "flashcard" device is sometimes helpful. Use a packet of recipe cards, write out the question or term on one side and the answer on the other. Run through the pack regularly, first answering the question without looking, then checking the answer; the list will be quickly committed to memory.

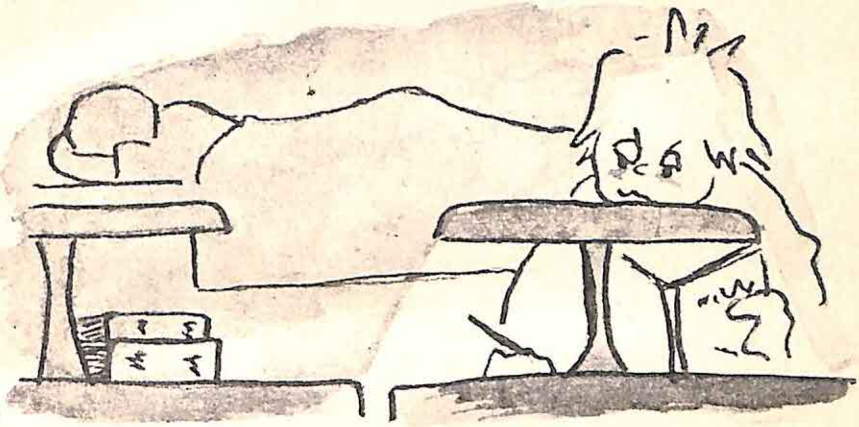
The student can also help himself to be actively responsive by making a deliberate effort to relate subject matter to previous experience or to other courses. Ideas or facts which are wholly new should raise a number of questions in your mind. Jot these down and keep searching for the answers.

It is difficult to remain involved if fatigue sets in, however. Two hours of concentrated attention is about all that can be expected of most of us. When you find your mind wandering, take a breather. Stand up and stretch mightily, go for a brisk walk around the block or open the window and let in some gusts of fresh air. Just before "breaking," though, make a few notes to make resumption of studying easier. What unanswered questions remain? Which area needs more review? Are there any immediate applications of the material just covered? On which page should you begin again?

Reward or reinforcement. The student must "get something." In psychology this is termed *reinforcement*. It can be thought of as a kind of reward.

The student who is attempting to exchange poor study habits for good ones will have to make a conscious effort to obtain small rewards while awaiting the larger goal—that of a true sense of mastery of the material. Increased ability to answer the questions posed during self-recitation might be a small reward. The slow but perceptible increases in efficiency and enthusiasm, so that every outside influence does not constitute a distraction, are another. The sense of accomplishment, of having done what you set out to do in attaining a regular study time might be still another.

Sometimes the small rewards can be contrived: "If and when I can answer every question at the end of the chapter without looking at the



With good study habits, cramming becomes unnecessary.

book, I'll go down to the drug store for a chocolate soda." When several subjects must be studied in a single session, take a quick break after each one and try to save the most interesting for the last.

If these rules are followed conscientiously, the large reward will come at examination time. You will be able to prepare properly for finals, by reviewing material which has been well learned in the past. There will be no need for the late hours, the countless cups of coffee, the weary and anxious emotional state which makes many students "blow" under the tension of the test, becoming confused and making careless mistakes.

Best of all, at some point along the way, you are likely to experience a real feeling for the adventure of learning, a sense of new horizons and satisfaction in a task well done. At this point you have arrived! You are no longer a student but a scholar. And the new values placed on learning can well last all your life.

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SECTION I

Science: The Search for Knowledge of Natural Laws

The problems of life on this planet have beset man from the beginning of his time. Though many of his efforts to solve problems seem bizarre to us—customs of sacrificing to appease angry gods, of examining animal entrails or watching the stars for propitious signs, of consulting oracles, planting crops during a certain phase of the moon, wearing amulets and burning witches—we should not scoff. Think, only, how many threads of superstition extend into our own lives today.

However, ignorance and false belief can *be replaced by knowledge. Events once attributed to demons or malevolent spirits are now understood—disease is one example—and with understanding comes the possibility of prediction and control.*

The search for knowledge and understanding of natural phenomena is called science. It is not a new enterprise. Every age and civilization has had its curious and inventive men, some of whom have paid with their lives for their discoveries. But scientific method as a disciplined procedure of inquiry, with its deliberate awareness of the possibility of error, has a relatively recent origin in the history of man. The consequence of modern science has been called the "explosion of knowledge." Information is accumulating so rapidly that new library methods must be developed to help scientists keep up with their fields.

If we are to acquire an understanding of any science, it is necessary to ask questions about how the scientist searches for knowledge. What is the "scientific method"? What is a "scientific fact"? And, since our science at this point is psychology, we will also want to inquire specifically about the work of the psychologist-scientist. The next two chapters will discuss these questions.

Chapter 1 *WHAT IS SCIENCE?*

Anticipating our discussion of psychology as a behavioral science, we must turn attention first to an overall look at science. Today's students are introduced to science and the scientific method in their earliest school years. Somewhere along the line they have memorized and re-memorized the steps of scientific inquiry. Nevertheless, too many students reach college age with the vague conviction that science is produced in complicated laboratories by white-coated gentlemen who write and speak in a language unintelligible to the ordinary layman.

It seems particularly important for the student nurse to have a clear-cut notion of what science is, its aims and its methods. Her profession is intimately linked with scientific endeavor, and she will live as an educated person in a scientific age, evaluating its concepts and subject to its effects.

Search for Understanding

Science begins with man's perennial questions: what, how, when, where, why. Though science sometimes seems to be of comparatively recent origin, it is possible to defend the view that even prehistoric man was a scientist of sorts. Like all men who have followed, he sought knowledge about his world in order to be better able to predict and control natural events. From cave drawings we know that he had an accurate concept of animal morphology. From his garbage heaps, we have evidence that he was able to pit meager weapons against such formidable opponents as the saber-toothed tiger, cave lion, woolly rhinoceros, mammoth, bison and great elk. He had to have learned points of anatomical vulnerability. Stone age skeletons of at least 50,000 years ago show restored fractures and demonstrate some understanding of human anatomy as well. Early in time man was able to control and use fire; then, between 3000 and 4000 years before the birth of Christ, he mastered the melting and casting of pure copper and copper-arsenic and copper-tin alloys. His domestication of plants and animals indicates considerable accumulation of knowledge about plant and animal life cycles.

To recount the groping steps toward understanding the world taken by men in the past is as exciting as any adventure story. Because we live in the "age of science" it is easy to dismiss the attainments of earlier scientists as of little account, if, indeed, these are accorded respect as science at all. However, the basic assumption upon which science rests is still unchanged. Science assumes dependable and orderly cosmic laws. And the aim of science is still unchanged. Science today, as yesterday, represents man's search for understanding of these laws so that he may be better able to predict and control natural events.

Furthermore, the fundamental approaches toward uncovering nature's secrets are still essentially the same. Modern science has refined and systematized these approaches. We have sophisticated mathematical techniques at our disposal and a vast variety of instruments to assist our powers of observation. The findings are more easily communicated and preserved (so that new generations of scientists don't have to rediscover what has gone on before). But the basic tools of science—observation, discovery and testing of ideas—are still used in the endeavor.

Three Methods of Science

Description. Science begins with description of natural phenomena. In order to proceed at all, we must first ascertain "what is." The descriptive approach seeks to answer questions of observable fact.

The ancient Egyptian priests were using the descriptive method when they carefully recorded the various levels of the river Nile in order to predict and warn of disastrous floods. Thucydides was engaged in description when he noted the symptoms of the plague of Athens in his account of the Peloponnesian War. He explains that he thought perhaps it could thus be recognized if it should ever break out again. Aristotle's *History of Animals* presents an unbelievable amount of descriptive research. For example, he details the comparative anatomy of the gallbladder in 27 animal genera. Van Leeuwenhoek, assisted by the lenses with which he was forever tinkering, was doing descriptive research when he discovered the "little beasties" swimming in a drop of rain water.

Good description still furnishes the basic building blocks of any science. The anthropologist interested in cultural forms and processes is likely to live with the group he is studying in order to obtain first hand experience with his facts. Careful measurements and weighing of thousands of children gave us our first approximations of the average height and weight of children at different ages. An accumulation of case histories enables fair prediction of the course of a disease. Marine biologists descend into ocean depths to see "what is" and gather specimens for closer examination. Questionnaires, electron microscopes, x-rays, precision measuring instruments, one-way vision screens which permit unobtrusive observation, all assist in gathering knowledge of "what is."

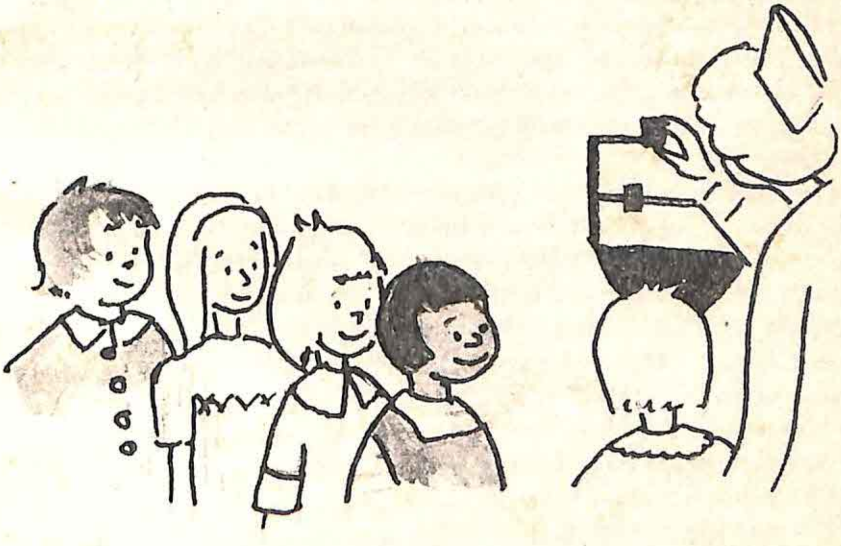
It must be apparent that accurate description will depend upon accurate observation. It is quite possible for an investigator to be wrong in what he believes he observes. Sometimes the very presence of an observer could distort the situation. Furthermore, every observer is limited in the number of instances to which he can attend. He must be exceedingly cautious about suggesting that his "facts" apply to a larger order of events.

All this should be taken to indicate that even simple observational procedure is "iffy" business. Modern science attempts to provide a safeguard by insisting that any serious investigation be "publicly verifiable." This simply means that the scientist is required to submit his findings to the scrutiny of colleagues in the field; then his study can be repeated by others and the results either confirmed or questioned.

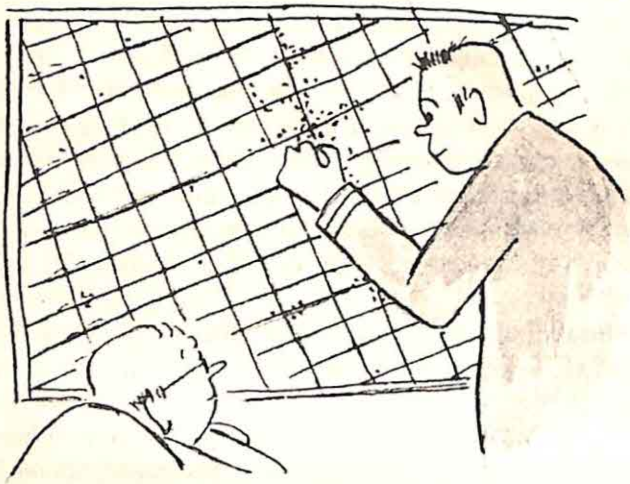
Association or correlation. Scientific description supplies us with systematic knowledge of "facts." Your textbook of human anatomy, for example, compiles the results of countless careful descriptions of innumerable dissections. The "facts" of human anatomy are pretty well established.

Frequently, however, it is possible and important for observations to move a step beyond simple description. Sometimes it seems apparent that there is a link or association between diverse phenomena.

To illustrate, suppose a dot is placed on the map of a large city at the site of each crime committed in the city. It would soon become evident that certain areas have large clusters of dots while other areas



Science begins with a description of natural phenomena.



Sometimes we can find a link or association between diverse phenomena.

have few. Some areas have "more than their share" of crime. There would seem to be some kind of tie or association between a particular area and the excessive number of crimes committed there.

Or suppose it is possible to study a large group of men over a period of years. Some of these men are regular smokers of cigarettes and some do not smoke at all. During the years, it is found that lung cancer develops with much greater frequency among the smokers than among the nonsmokers. The smokers seem to have "more than their share" of lung cancer. This would suggest some kind of link between smoking and lung cancer.

Modern science employs certain statistical techniques which make the discernment of a possible relationship between events or measures more explicit. The term for this kind of study is *correlation*. Thus, if we were to inquire about a possible association between IQ and grade-point average in college, a correlation study would secure a mathematical indicator of the relationship.

Present day correlation procedures make possible a more precise observation of suspected associations between phenomena. However, whether the association is documented by modern statistical techniques, or whether it was evidenced by the somewhat more casual observations of yesterday's scientists, a critical limitation must be observed. The existence of an association between events or measures cannot be offered as evidence of cause and effect. That is, although a correlation between phenomena may permit some prediction of the occurrence of one with the other, it does *not* warrant a conclusion that one is the cause of the other.

For example, in the time of our great-grandmothers, the association between incidence of malaria and exposure to the night air of malarial regions was well known. As a matter of fact, the name of the disease means "bad air." One could predict with a fair degree of success that sleeping with shutters flung open to the night would increase the chances of acquiring malaria. We now know, of course, that night air does not *cause* malaria—that the cause is a parasite transmitted through the bite of an infected mosquito. Sleeping with one's unscreened windows open invited attack by the insect.

So even though a relationship may be highly suggestive, it must be viewed with caution. There is always the possibility of another factor, an "X" as yet unknown (a mosquito, so to speak), which operates as the true cause.

Experiment. Descriptive research furnishes answers to questions of basic factual information. What is the average IQ of Harvard freshmen? What is the usual course of whooping cough in children? What were the voting patterns of Northeastern city suburbs in the 1964 elections? What is the melting point of various metals? What are the different communicative sounds made by porpoises?

Associative or correlative research seeks answers to a different type of question. Is the taking of thalidomide during the prenatal period associated with deformities in babies? Is there a relationship between the amount of television watched by adolescent boys and the incidence of juvenile delinquency? Is there a correlation between the IQ of children and the IQ of their fathers? Is there an association between the level of cholesterol in the blood and incidence of heart disease? Although the method of association may point up a clear relationship, it does not offer evidence that one factor is the cause of the other.

In order to provide a rigorous demonstration of cause, it is necessary to employ the third method of science, the experiment. An experiment is a situation deliberately arranged by an investigator in an attempt to answer a question of cause.

In an experiment, the investigator proposes to demonstrate that a factor will produce a particular result. Factors or circumstances or phenomena under study in psychology are termed *variables*, since these may be present or absent or may differ in degree. The variable of an experiment which is thought to be caused by (or to depend upon) another has a special name. It is termed the *dependent variable.*

The variable which is to be tested to see if it causes an effect must somehow be isolated from all other possible variables which might also affect the dependent variable. Because, in an ideal situation, this one variable is operating alone or independently, it is distinguished as the *independent variable.*

An independent variable, then, is the presumed cause of the dependent variable which is the presumed effect. Note the caution with which that statement is worded. The scientist is always tentative in his conclusions. He is forever aware that even the most careful of arrange-

Experiment is used to demonstrate possible cause and effect.

ments sometimes contain overlooked variables, and that only after experiments have been verified over and over again can the results be cited with some confidence.

Let a very simple kind of experiment serve as illustration. A farmer wishes to test the effect of a certain type of fertilizer upon his field of corn. Will the fertilizer, the independent variable, cause an increased yield of corn? The size of the resulting crop, in this case, will be the dependent variable. If he plants the field, fertilizes it and obtains a bumper crop, is he justified in crediting the fertilizer? Not at all! Many other factors (variables) influence the growth of corn: amount of sun, amount of rain, kind of seed, type of soil, method of cultivation. How can he be sure he is witnessing the effect of fertilizer rather than the effect of something else? Possibly it has been a year of particularly propitious weather for corn. He will somehow have to *control* the extraneous variables in order to fully account for their effects on corn. One way of accomplishing this might be to plant two fields of corn at the same time with the same kind of seed, making sure that the soil is similar, that drainage conditions are alike, that both fields are so situated as to receive the same amount of sun and rain and that both fields are cultivated in a similar manner. Then, by fertilizing one field and not the other, he could compare the resulting yields of corn and note any difference. If our farmer is a good scientist, he will want to repeat his experiment several times, however, before he attributes a difference to his independent variable. He will know the difficulties of making absolutely certain that he has controlled the influence of all possible variables.

An experiment, then, is a carefully arranged test for cause and effect. Its dependability will hinge upon how well the investigator has been able to control the variables involved so as to isolate the effects of his independent variable. One method of controlling variables is to "hold them constant"; this involves arranging identical conditions for tests with the independent variable applied to one test and not the other. Thus, we could say that the farmer held constant the variables of soil, seed, drainage, sun and rain if these were, indeed, the same for each field.

It must begin to seem that scientists are the doubting Thomases of the world. In a sense, perhaps, they are. But the orientation of the scientist is better characterized as a kind of prudence in which it is well understood that to accept knowledge as *final* is to close the door to further inquiry.

Actually, this general outlook is one which recommends itself to each of us. It implies a lively curiosity, a willingness to relinquish our pet fancies when these are discovered to be based upon false assumptions, an acceptance of change and, most of all, a ceaseless quest for new knowledge.

Summary

1. Science seeks knowledge of the universe. It is based upon an assumption of dependable and orderly cosmic laws. The aim of science is discovery of these laws and their operation in order that man may better predict and control natural events.

2. The tools of science are observation, discovery and testing of results. Results are made public so that others can repeat the investigation.

3. There are three basic types of investigation:

Descriptive investigation consists of collecting data as they exist or have existed in the past. The investigator does not change anything; as a matter of fact, he tries to avoid even the effect which his presence might have.

Associative or correlative investigation seeks possible relationships between variables. When a relationship is discovered it may permit prediction but it does not provide evidence of cause.

Experiment is the most rigorous kind of investigation. It is used to demonstrate possible cause and effect. An experiment is a situation deliberately arranged by the investigator to permit observation of an independent variable (the presumed cause) operating upon a dependent variable (the presumed effect). The problem in designing an experiment is that the independent variable must somehow be isolated, so that the experimenter can have confidence that he is viewing its effects. He attempts to accomplish this by controlling or holding constant all other possibly effective variables.

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Chapter 2 PSYCHOLOGY: A BEHAVIORAL SCIENCE

We have looked at science and seen it to be the search for understanding of natural phenomena, a search which began even before men kept records. Although the aim (understanding, prediction, and control) has remained the same, experience has taught scientists that the search proceeds more swiftly and accurately if they adhere to certain rules of scientific inquiry.

Now let us consider the application of these rules in psychology and see where psychology fits in the family of sciences.

Psychology can be defined as the science of human behavior, or more broadly, as the science of behavior (indicating an interest in the behavior of animals as well as the behavior of men).

Psychology as science is something of a Johnny-come-lately. It is not because man has not always been interested in himself and his fellows. Indeed not! Folk stories and myths tell us much about how man has thought about himself and explained behavior to himself in the past. So, too, do the writings of the world's philosophers as they have addressed themselves to the enigma of man. The wisdom which has been passed along from these kinds of speculation cannot be discounted. However, along with the wisdom there is also an accumulation of nonsense and superstition.

Less than 100 years have passed since the proposal that it might be possible to make scientific sense out of human behavior—that perhaps the method of inquiry which had already proved so fruitful for other sciences could be used to study the human mind. Physiologists had long since demonstrated the circulation of the blood through the capillaries, had described the structure of the eye and ear, and knew much about the human nervous system; physicists were learning the properties of gases, the laws of motion and the principles of light waves; physicians had begun to use anesthesia and antisepsis and were becoming acquainted with the notion of pathogenic organisms as agents of disease—all by the time the new science, psychology, was born.

Scientific Method

Students often feel that psychologists belabor the importance of the scientific method in psychology. Isn't much of psychology, after all, just good common sense? Have the rules for scientific inquiry really contributed materially to what is known about man? An answer to the first question may be found by contrasting the manner in which each of us "collects and orders" data on human behavior with the approach that the psychologist uses in solving the same problem.

Each of us, during the course of growing up, has had to evolve for himself a kind of "system" of human behavior. We have fashioned our own small predictions of how people will behave under certain conditions. If father had a hair-trigger temper, it was necessary to "collect data" on when to stay out of his way in order to avoid as many collisions as possible. The observations that made life with father relatively tolerable were personal ones, born of individual experience. Each "system" contains a large assortment of these individualized predictions. In addition, there are those regularities of behavior dictated by the culture in which we live. When the policeman holds up his hand at a busy traffic corner, it is possible to predict some serious difficulties if the gesture is disregarded. Our "systems" are equipped with many predictions based upon the behavior expected in our culture.

The "system" is quite necessary to our existence. It creates a kind of order out of what would otherwise be chaos, a "scheme of things" within which we can plan ahead and feel comparatively comfortable and secure.

The point here is that everyone has had to be a constant observer of others in order to anticipate as accurately as possible and chart his course accordingly. It follows, of course, that the better the prediction, the less often are we either taken aback or wholly confused by the unexpected. This is not to say that complete accuracy is necessary or even possible. People will forever continue to astonish us. But perhaps a comparison of the observations upon which we tend to base our expectations with those of the psychologist-scientist will offer some points for reflection. Perhaps the method of the psychologist can provide some awareness of deficiencies in the system that furnishes our common sense notions of human behavior.

Subjectivity vs. objectivity. To begin with, the ordinary observations of the layman are as likely to be subjective as objective. We are not usually meticulous or even very aware about which is which. A subjective observation is, in fact, a misnomer. It is a statement of personal feelings, approval or disapproval, preference or judgment which passes for observation. "Poor people are poor because they are lazy." The statement may seem to be based on observation, but actually it tells us more about the speaker than about the poor. "Mary has such a good personality." "That teacher is so mean." "People at the party were such bores." All reflect the tendency to offer private opinion as fact.

Of course, we can be objective, too. The student nurse is given specific training to "stick to the facts." She doesn't chart, "The patient seems to have become worse," but rather "The patient appears more restless. Temperature is 103.2, an increase of three degrees in two hours. Cough is frequent, intensive and unproductive." It might be hoped that the training in objectivity will carry over into her daily life. Do not misunderstand. Our likes and dislikes are important. It would be a dull old world without them. But it would be well to become aware of the distinction between the subjective and the objective, between a statement which mirrors one's private evaluation and one which notes, without elaboration, what can be observed.

The psychologist, like all scientists, is almost painfully concerned with objectivity. Many of the standards and procedures in science have been designed especially to insure against permitting a personal bias, even unwittingly, to influence the results. This is one of the reasons for the requirement that scientific observations be public observations, "public" in the sense that they can be checked by other qualified observers.

Precision vs. imprecision. Another difference between the approach of the psychologist and that of the layman is one of precision. The language we use to describe one another's behavior is full of terms like "some," "most," "almost always," "several," and "frequently." We employ adjectives such as "aggressive," "emotional," "sociable," "frustrated," and "intelligent" with blithe confidence that the meaning is clear.

The psychologist is trained as a scientist in precision of statement. To describe results as "almost always occurring" would be meaningless in a serious investigation. Let us look at an actual example: The question had to do with whether crawling babies can detect the possibility of falling. The investigators constructed an ingenious table for the test. The entire table was glass topped so that no baby could actually fall; one half of the table was the "shallow" side, with the tile surface located only a few inches beneath the glass. The other side of the table was the "drop-off side," the tile surface located on the floor beneath the glass. Each baby was started on the center board. The mother stood first on one side of the table and then on the other, attempting to lure the baby across with a toy. The actual results for 36 babies of different ages were tabulated as follows:

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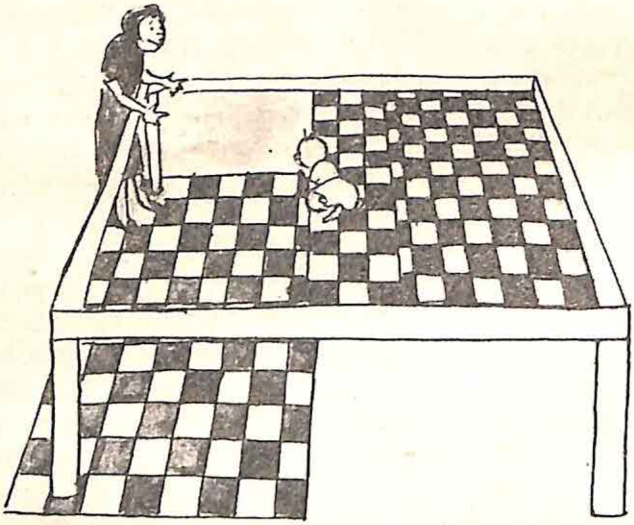


Visual cliff table.

Behavior of Human Infants on the Visual Cliff

	AGE OF INFANT (MONTHS)					
RESPONSE	6–7	8–9	10–11	12–14	TOTAL	PER CENT
Did not move off center board	5	2	1	1	9	25%
To shallow side only	4	7	8	5	24	67%
To deep side only	0	0	0	0	0	0%
To both sides	1	1	1	0	3	8%
Total	10	10	10	6	36	100%

From this it is possible to note that 67 per cent of the babies could not be enticed over the "cliff" side of the table, but did move over to the "shallow" side. Record is also made of the 25 per cent who did not move in either direction and the 8 per cent who apparently did not perceive a difference.[1]

The most precise language of all, of course, is that of mathematics, and every effort is made to invoke its exactness in psychological studies. Furthermore, the psychologist defines his terms. Suppose an investigator decided to study the ways in which four-year-old boys commonly display aggression. It will be necessary to be perfectly clear with regard to what he is going to call "aggression." Hitting? Pinching? Squashing someone's sand pile? Sticking out a tongue? The psychologist will try to construct an *operational definition*—that is, a definition which describes the observable events (i.e., operations) to be included as aggressive behavior in his particular study. His definition might run something like this: "For purpose of this study, aggressive behavior is defined as any act directed toward harming another or another's possessions, or behavior which threatens such an act." But, someone may ask, what about a little boy biting his fingernails? Shouldn't that count as aggression? The question points up the usefulness and purpose of an operational definition. Our investigator did not choose to count, for his study, events which might be described as self-injury. When he publishes his study, he may be open to criticism on this point. But his operational definition states precisely what he did count. If someone wishes to improve his study, perhaps behavior by which the subject turns aggression toward himself will be included.

Awareness of limitations vs. generalization. Precision has a corollary, awareness of limitations, which also differentiates the ways of the psychologist from the ordinary observer. Most of us are prone to generalize with considerable disregard of the paucity of our "for instances." A few boisterous laughs from Rosie tend to suffice for the comment "She's so loud." Watch Nan smile and wave at your boy friend only once and immediately she becomes "such a flirt" to you.

The psychologist is scrupulous about detailing the limits of his study. In the question of whether crawling babies can perceive a "visual cliff," the authors describe observations of 36 infants. Immediately we understand that the investigation is only a small beginning. It will have to be repeated many, many times before the question can be answered with some confidence.

Frequently the use of *sampling statistics* insures against unwarranted generalizations. A *sample,* as the term implies, is a number of specimen examples chosen to represent a larger group. Dr. Gallup, in his measurement of expected voting behavior before each election, cannot possibly interview every voter in the country. He makes his predictions on the basis of samples—groups of voters in cities, in suburbs, and in rural areas from many different sections of the land. There are elaborate selection procedures and statistical techniques in the use of samples, all designed to insure that a particular sample does not deviate significantly from the whole group it is supposed to represent.

Focused vs. casual observations. Still another point of difference can be found in the explicit focus of the psychologist's observations, contrasting with the lack of direction for those of the layman. Our everyday observations tend to be circumstantial happenstance. It is unlikely that one would, in the ordinary course of existence, deliberately set out to "gather all the facts" about the behavior of another. Even such an important decision as whether or not to marry Joe is likely to be based on casual, scatter-shot perceptions. He's a great dancer, lots of fun, has a red convertible and his kisses are divine. From this we cheerfully predict that he has those qualities of stability, compassion, ambition and responsibility so necessary for an enduring marriage.

The observations of the psychologist do not "just happen." The psychologist begins with a specific question. Sometimes it is a question which calls for descriptive research: "At what ages do babies begin to sit, crawl, creep and walk?" Sometimes it is a question of relationship: "Is there a correlation between the amount of physical punishment (slapping, spanking) received and the amount of aggressive behavior manifested by the child?"[2]

Sometimes it is a question of cause: "Does deprivation of mother love result in later social behavior difficulties?" It should be noted here that this question calls for experiment, with the independent variable—lack of mother love—arranged, and other variables controlled by the experimenter. But who would dare to deprive human babies of their mothers' love in a calculated test? Many psychological questions pose this kind of moral problem. In such case, resort may be made to studies of animals, with full recognition that generalizations from animals to man are shaky at best. This particular question has been studied with baby monkeys and puppy dogs.[3, 4]

The psychologist, then, zeros-in with his observations, directed by the question for which he seeks an answer. It can be seen that the approach of the psychologist to understanding human behavior has qualities of objectivity, precision, awareness of limitations, and focus which are likely to be missing from our own day-in and day-out common sense observations.

Does it make a difference? What has the scientific method, as applied to psychology, contributed to what is known about man?

A Forward Look

The next 16 chapters of the text will attempt to provide some answers for this question. We will be concerned with growth and development of the human organism. We will look at the complex interaction of factors —heredity, maturation and learning—which weave in wondrous ways to transform the tiny infant into the person he will become. We will try to understand human behavior as the psychologist is trying to understand it, as a ceaseless process of adjustment to internal and external situations. Hopefully, we will be impressed both with the communality of man (those aspects of this process which are shared by each and every one of us) and at the same time, with man's uniqueness (those aspects of the process which stamp us for once and for always as separate and very particular individuals). We will explore the meaning of "mental illness" and see it as an extension of the coping with interpersonal relationships in which everyone must engage. We will examine the kinds of help available when relationships are troubled. Finally, we will attempt practical application with another look at ourselves.

In the course of study we will see psychologists and a number of their scientific colleagues—anthropologists, sociologists, biologists and psychiatrists—at work. While exploring their findings we will also view some of the problems encountered in their search.

Constructs and theories. Every effort will be made to distinguish for the student that information which is generally accepted as "fact" (albeit tentatively, as in all science), and that which is presented as a "construct" or as "theory." A *fact* is information based on verified observations. A *construct* in science is an explanation for observed events.

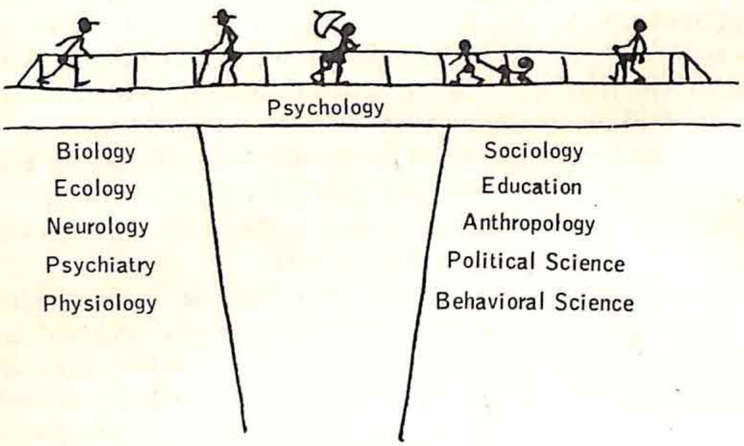
Hold a pencil a foot above the table. Let it go and watch it drop. The pencil, the act of positioning and releasing it, and its fall are all observable events, and can be registered in essentially the same manner by the sensory apparatus of more than one observer. But what makes the pencil fall? Whatever it is is not observable. It cannot be seen or touched or smelled or tasted or heard. And so Isaac Newton invented the notion of a force called "gravity" to explain the behavior of falling objects. The idea of gravity has been a particularly useful construct because it can be invoked to explain a great many observable phenomena, particularly with regard to the motion of matter. When constructs can be expanded into a system of explanations incorporating many diverse observable events, the system is called a *theory*.

Theories and constructs might be thought of as the mortar of any science, holding together the bricks of observed events. If the mortar does not perform its function adequately, if upon testing the bricks fall apart, the mortar is bad and must be thrown out. It is necessary to start over again with a new batch.

The constructs and theories of psychology will be identified as we go along as speculative, as the best guesses or hunches to date. The student is to understand that they are constantly being tested, revised, re-tested and re-revised. There need be no apology for citing theory provided you don't accept it as a final answer, but rather, like the scientist, stand ready to weigh new evidence as it comes in.

Psychology as Science

Psychology has long been aware of its affiliation with the biological sciences—the sciences of life, the study of how organisms grow, repair, reproduce their kind and carry on life processes. Behavior is inextricably



Psychology is like a bridge between the biological and social sciences.

tied to physiological components, neurological events, sensory processes, products of the ductless glands, metabolism and even to the physiological fact of being male or female. Behavior must also be considered in the light of heredity, the science of genetics. Psychologists have a vested interest in embryology, the study of growth and development in early prenatal life. Because of allied interests, psychology has had a handsome interchange with ecology, the biological science of the interaction of organisms with their environment. In medicine, psychologists find overlapping interests with psychiatry and neurology, the medical studies of mental illnesses and disorders of the nervous system, and more recently with psychosomatic medicine, the study of emotional factors in disease.

On the other hand, psychologists have found they can contribute significantly and borrow much from the social sciences, the sciences concerned with social groups and with societies. So closely related are the interests of psychology with two of these—anthropology, the study of the origin, development and works of man, and sociology, the study of man's social life and institutions—that there is developing a new integrated discipline known as "behavioral science" with its own journal, *Behavioral Science*, reporting scientific studies of importance to all three disciplines.

Other social sciences that have ties with psychology are education, with its emphasis upon the learning process, and political science, especially as it touches upon motivation and influences on political behavior.

Because of its position between the two groups of sciences, psychology might perhaps best be thought of as a bridge that permits easy crossing from one group to the other. It is interdisciplinary in the true sense of the term, a biosocial science with important things to teach and important lessons to learn from all the others.

Summary

1. Psychology is a young science, less than a hundred years old. It subscribes to the basic assumption of all science that there is law and order in the universe. It proposes that the method of science can lead to understanding, prediction and control of human behavior. The student must not think that psychologists are unaware of the moral and ethical implications of the idea of control. The psychologist is a member of a professional organization, The American Psychological Association. He subscribes to its Code of Ethics and is subject to its sanctions. Some indication of the constant concern about this matter can be gained from several of the references listed at the end of this chapter.[5-7]

2. Each of us fashions during the course of growing up a "system" for understanding, anticipating (predicting) and controlling behavior. We use observations from our own experience as well as knowledge of the many expected behaviors taught by our culture.

3. Our common sense observations and the observations of the psychologist differ in some important ways, compared in outline form below:

Ordinary Observations	*Psychologist's Observations*
A. Subjective form and objective form tend to be used indiscriminately	A. Objective 1. Emphasis on observable events 2. Studies made public so they can be checked by others
B. Imprecise 1. Use of indefinite words 2. Use of terms without definition 3. Generalizations based on limited observations	B. Precise 1. Quantitative; number of instances made explicit 2. Use of operational definitions 3. Limitations of study made explicit; use of sampling statistics 4. Use of language of mathematics for most precision
C. Undirected, largely circumstantial	C. Directed by specific question

4. Constructs and theories of any science are speculative, invented explanations for observed phenomena. However, they must be firmly rooted in the facts they are supposed to explain and subject to continuous testing and revision.

5. Psychology is a biosocial science, with important connections with

both the biological and social sciences. We have suggested that psychology might be thought of as a bridge linking the two groups together.

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SECTION II

Human Development

It is time now to look at the subject matter of psychology, the human organism. In the next five chapters we will trace the development of that small bundle of potentialities, the newborn baby. We will look at the interaction of the great life forces—heredity, maturation, and environment.

Heredity is a logical beginning of the story, for it is what determines that the baby is, first of all, a human being—a male or female human being with straight hair or curly, fair skin or dark or in between, and most important of all, a capacity to learn. Maturation sets the stage for learning. It dictates the steady growth of the body systems so that in due time baby will sit, creep and walk. His hand will achieve its fine ability to grasp and manipulate. His vocal apparatus becomes ready for the acquisition of language. Environmental influences, as we will see, are manifested even before birth. Afterwards these become important determinants of whether the small baby becomes a human being who can run up a tall palm tree or one who will watch the stock market with avid interest, one who can surgically repair a damaged heart or one who treats illness with dances and masks, a man who weeps at the slightest provocation or a fearsome warrior.

The overall theme of the five chapters is potentiality. *Hopefully, we will begin to glimpse the enormous range of human possibilities. For it is the amazing plasticity of human beings, brought about by their magnificent ability to learn, which challenges those who think of men as "naturally aggressive" or "naturally competitive" or "naturally acquisitive" or even "naturally good" or "naturally bad."*

Chapter 3 THE NEONATE: LIFE BEGINS

A baby is born. In every society, this is an event of tremendous significance. The thin reedy wail announces not only the miracle of a new life, well started, but the promise of what the baby may become. We pay heed to this potential when, as parents, we weave dreams about the future. For the immediate present, the baby is small and helpless. But later . . . perhaps a ballerina, an Olympic contender, chief of the tribe, a religious leader, a builder of bridges or a tiller of the soil? All things are possible in the mind of the fond parent who cradles the tiny bundle.

But not quite all, because the parents themselves dream and aspire for the child in terms of the society in which they live. American parents will not ordinarily list "chief of the tribe" as a likely possibility for a small son. Nor is the Watusi mother likely to consider the chances of becoming an Arctic explorer for hers. So the circumstances of birth, by opening up certain possibilities and closing off others, provide one augury of the baby's future.

However, we are ahead of the story. In order to understand the future, it is necessary to begin at the beginning. How much of the future is irrevocably determined at birth? What are the biological "givens," the built-in capacities with which the baby starts his life journey?

Capacities of All Organisms

The baby is, first of all, a human organism. To identify him as an *organism* is to say at once a great deal about his possibilities. All organisms, from the simplest one-celled to the most complex multicelled living things, share certain fundamental attributes. For every organism, simple or complex, these characteristics are basic in each particular life process. The characteristics interlock; it is difficult to consider one without taking into account all the others. The following enumeration, then, must be recognized as an arbitrary division of what is, in reality, an integrated, functioning whole.

1. All organisms are composed of protoplasm surrounded by a limiting membrane. Protoplasm is known to contain a number of chemical compounds, but it is much more than a mere aggregate of these elements. The still-mysterious secret of life seems to lie in the organization of these compounds into an extremely complex colloidal system which is capable of maintaining itself in a steady state, despite continuous introduction of new material and elimination of some of its own substance. The limiting membrane separates the internal from the external, keeping out, within limits, much that is noxious and yet permitting a continuous exchange of substances between the internal and external environments.

2. All organisms perform the basic physiological processes. Organisms have the capacity to obtain nourishment from the external environment, to digest it, circulate it and eliminate waste products. This is part of the maintenance of the steady state mentioned above. It can better be thought of as a kind of *dynamic equilibrium*, an equilibrium which is constantly in the process of change. This also implies an open system rather than a closed system, with an intricate series of chemical reactions furnishing energy for sustaining the equilibrium.

3. All organisms tend to maintain a constancy of internal conditions. This is sometimes called the principle of *homeostasis*. Many internal balances are necessary to sustain life—water, chemical and salt, to cite but a few—and some organisms, man included, need a constant internal temperature. Some organisms may insulate themselves against an unfavorable external environment which threatens their internal equilibrium by changing the character of the limiting membrane, forming a spore or cyst. Some organisms can accomplish an internal metabolic rearrangement, or produce an adaptive enzyme that renders an untoward substance harmless. In man, the various inflammatory processes, allergic reactions and mechanisms for coping with pathogenic invaders would fall into this category. All organisms, in other words, are equipped with various means for preserving and regulating a degree of inner constancy.

4. Organisms have the capacity to sense their environment and to react to that sensing. This is sometimes called the principle of protoplasmic *irritability:* protoplasm registers changes in the environment and tends to respond adaptively. In simple organisms the sensing apparatus is crude and the possibilities for reacting are limited. Thus, the single-celled amoeba will move away if a drop of acid is introduced in the water near it, adapting by means of the irritability and motility of its one lone cell. In higher organisms the sensory apparatus is marvelously elaborate and the range of possible responses is relatively vast.

5. All organisms have a life cycle which includes growth, development, reproduction of its kind, and decline.

The human baby, therefore, has certain "built in" capacities which are his by virtue of his sharing in the properties of all organisms. The human baby can be expected to partake of the ceaseless interchange between the internal and the external, between himself and his environment. He will, of course, be equipped to perform the basic physiological functions associated with nourishment, its utilization and the elimination of waste products. His small being will also maintain other important internal constancies. Large portions of the environment are available through his particular sense organs and he will have certain response capabilities. We can expect him to grow, develop (through a long period of dependency upon others), eventually to reproduce, become aged and die.

Although the notion of linking the human baby with an amoeba may seem farfetched, the essential unity of all living things is built on this biological base. As we will see, the basic organismic capacities are, in simple forms of life, biological predecessors of much that becomes psychological in higher organisms. For each organism, the modes by which it exercises these capacities—maintaining constancy of internal conditions, performing physiological functions, sensing and responding—as well as its particular life cycle and its particular protoplasmic structure, entail great differences. The individual qualities of each organism are passed on from one generation to another. One amoeba is much like another, one eagle has characteristics in common with other eagles and man shares his human attributes with all other men. The means by which an organism becomes what it is and reproduces its kind is termed *heredity*. To understand the manner in which man fulfills his own organismic potential, we must take a look at human heredity.

Human Heredity

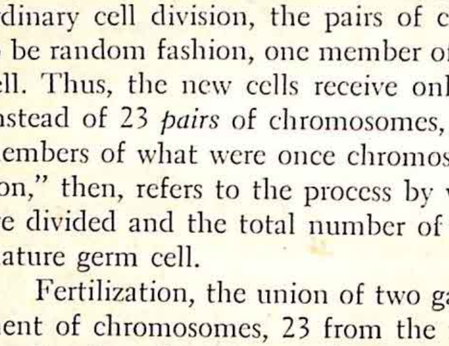
We have seen the newborn baby's kinship with all organisms. Now we must examine his similarity to all other human organisms and, in addition, his special individualized similarity to his own immediate ancestors.

The life of the human individual begins with the union of two germ cells, the spermatozoön from the father and the ovum of the mother. The new cell which is formed is called a *zygote*. At the instant of conception the heredity of the individual who will be developed from the zygote is set for all time. Thereafter, every cell in the individual's body will carry his particular unique (except in the case of identical twins) inheritance in the form of 23 pairs of chromosomes located in the cell nucleus. The way this comes about should be reviewed briefly.

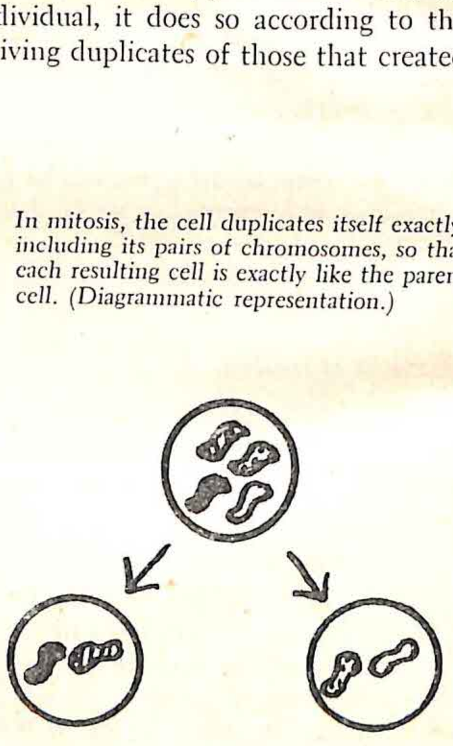
Reduction-Division

Ordinarily, the cells of the body replace worn and damaged cells or increase in number by a process of cell division termed *mitosis*. This means that the cell duplicates itself exactly, including its pairs of chromosomes, so that each resulting cell is precisely like the parent cell. The germ cells, technically known as *gametes*, of the mature male or female begin with a full complement of 23 pairs of chromosomes, just like every other body cell. But gametes undergo a special process of cell division which is known as *meiosis* or *reduction-division*. During meiosis, instead of duplicating as in ordinary cell division, the pairs of chromosomes separate in what seems to be random fashion, one member of each original pair going to each new cell. Thus, the new cells receive only half of the original chromosomes. Instead of 23 *pairs* of chromosomes, each new germ cell carries 23 *single* members of what were once chromosome pairs. The term "reduction-division," then, refers to the process by which the original chromosome pairs are divided and the total number of chromosomes reduced for each new, mature germ cell.

Fertilization, the union of two gametes, results in a brand new assortment of chromosomes, 23 from the male germ cell pairing with 23 from the female cell to create the zygote. When the zygote divides and redivides into the cells of the new individual, it does so according to the process of mitosis, with each cell receiving duplicates of those that created



In mitosis, the cell duplicates itself exactly, including its pairs of chromosomes, so that each resulting cell is exactly like the parent cell. (Diagrammatic representation.)



In meiosis or reduction-division, the paired chromosomes separate in what seems to be random or chance fashion, one member of each pair going to each germ cell. This simply represents one possibility for this cell with two pairs of chromosomes. Do you see another possibility? (Diagrammatic representation.)

the zygote. Thus, an individual's heredity depends upon the particular combination of 23 chromosomes from his father and 23 chromosomes from his mother, these having been sorted out of all the possible arrangements for the two germ cells that started his life. Theoretically, there are 2^{23} or 8,388,608 different assortments of chromosomes which could occur for each spermatozoön and ovum. This means that every father and mother have more than eight million different possible combinations of characteristics which might be passed along to their children. An individual's heredity is drawn from a pool of some 150 trillion possible chromosome combinations, resulting first from the chance selection of chromosomes for each germ cell and the subsequent union of those particular two cells. The sorting of the chromosomes, occurring in every germ cell during its maturation, helps to explain why children who have the same parents and are reared in similar surroundings may differ so widely in appearance and other characteristics.

Actually, the picture is even more complicated. It is now known that prior to or during the process of reduction-division, chromosomes sometimes break apart and exchange parts with one another. This is known as *crossing over*, and means that hereditary factors on a chromosome inherited from one grandparent may "cross over" to a chromosome inherited from the other grandparent during the formation of a germ cell in the parent. This germ cell may go on to unite with another and form a zygote. In such cases the changed chromosome will be a part of the inheritance of the offspring. The process of crossing over adds enormously to the already almost infinite potential variability in heredity.

Chromosomes and Genes

The emphasis upon the individuality of each newborn baby is thus not misplaced. Unless he is an identical twin, his heredity is a unique combination of factors, one half from the father and one half from the mother. On the other hand, he may bear resemblances to brothers and sisters because their chromosomes were sorted out of the same "pool" which yielded his.

Human chromosomes are tiny ropelike structures, so small that counting them has been difficult even with advanced techniques of microscopy. It was impossible to spread the cellular material thin enough so that the chromosomes would not lie on top of each other. Finally, in 1956, two Scandinavian investigators were able to use a new "spreading" method and the latest in lighting and photomicrography. Their count of 46 (23 pairs) has subsequently been confirmed by others.

Recent studies have also revealed that an altered number of chromosomes may be associated with certain abnormalities. A developmental difficulty known as Klinefelter's syndrome, in which the male genital organs do not develop normally, seems to be linked to an extra chromosome, making 47 altogether. In a related difficulty in the female, Turner's syndrome, the breasts and pubic hair do not develop at the age when these changes are expected. This syndrome seems to be associated with a missing chromosome, afflicted women having only 45. A tragic condition which produces mental and physical defects, Down's syndrome or mongolism, also seems to be somehow related to an irregular number of chromosomes, in this case an extra chromosome which is abnormally small.

Each chromosome carries the specific hereditary factors called genes. There is no way of determining the exact number of genes as yet; human genes do not show up under the microscope. However, genes of other organisms have been studied and furnish an estimate of from 20,000 to 60,000 genes for each human being. Each gene is essential to the development of a certain transmitted characteristic.

The gene is now known to consist mainly of a complex substance called deoxyribonucleic acid, or DNA for short. The molecular pattern of this compound seems to have the form of a double spiral staircase, with the two spirals linked together by a particular arrangement of specific biochemicals (like the steps of a staircase). The exact order of these "steps" along the spiral as well as the varying proportions (which have been found to be different in the DNA of different species) seems to constitute a kind of code of hereditary information. The process has been likened to the magnetic tapes used to instruct electronic computers. In the organism the "tapes" provide the sets of instructions that control development.

Dominance and Recessiveness

One important attribute of the gene is *dominance* or *recessiveness*. Genes, like the chromosomes of which they form a part, are paired, one member of each pair coming from the father and the other from the mother. If the parental genes for such a characteristic as hair form are the same (for example, each contributing a gene for curly hair), the child will have that form of hair. But what if one parent's gene was for curly hair while the other contributed a gene for straight hair? When the genes are different, the effects of one may dominate over or cover up the effects of the other. Such a gene is said to be *dominant*, while the ineffective gene is said to be *recessive*. A dominant gene will produce the trait no matter what kind of gene it is paired with, while a recessive gene must always be united with one like itself in order to take effect.

In the case of curly hair versus straight, the curly hair gene is known to be dominant. Therefore a child with two different genes, one for curly hair and one for straight, will have curly hair.

The appearance of a trait, so that it can be described, is termed the *phenotype*. The term *genotype* refers to the actual genetic endowment, including qualities which may or may not be manifested in the phenotype. When the organism has two different genes for a particular trait, the genotype for that trait is said to be *heterozygous*; when the two genes controlling a trait are the same, the genotype is termed *homozygous*. With a phenotype of straight hair, the genotype of the individual would be known to be homozygous; since the gene for straight hair is recessive, it would take two of the same kind to produce such a phenotype.

Much of what we know about dominance and recessiveness has been worked out with plants, insects such as the fruit fly and animals such as the guinea pig. For human beings, our information is much less complete. Some traits known to be dominant in human beings include drooping eyelids, white forelock (known as "blaze"), a certain form of dwarfism known as achondroplasia and baldness in men. Conditions known to be produced by recessive genes include albinism (complete lack of pigment in the skin, hair, eyes and nails), a rare type of complete color blindness, some types of hearing and visual defects, a kind of taste deficiency, the type of dwarfism which afflicts those known as "midgets" and a rare form of mental deficiency known as amaurotic idiocy.

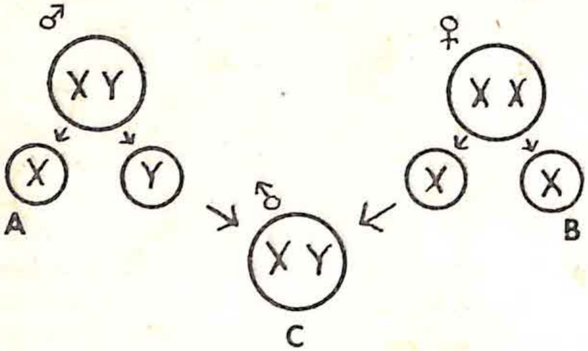
Sex Determination

Expectant parents are always curious about the sex of the soon-to-be child. Boy or girl? So much hinges upon the outcome. In ancient kingdoms where the continuation of a dynasty depended upon a male heir, wives were sometimes put aside for failing to produce the desired offspring. This practice really did the poor women a gross injustice because it is the father who determines the child's sex.

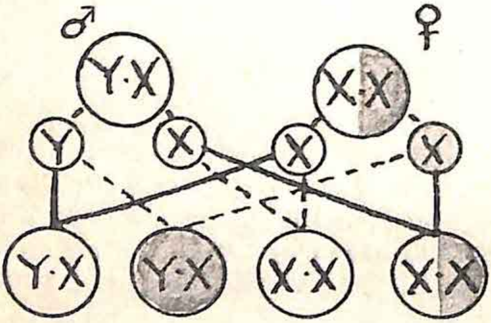
The chromosomes which determine sex are of especial interest, not only because of their effect on whether the child will be male or female, but because of their association with certain traits which are *sex-linked*.

The sex-determining chromosomes of the normal female are both of the same kind, called X chromosomes. The male carries one X chromosome and one of a different type, termed the Y chromosome. Thus, two X chromosomes will result in a female and an X plus a Y will produce a male. Because of the process of reduction-division, the gametes of the female will each carry an X chromosome, while half of the gametes of the male will carry an X and half will bear the Y. If a spermatozoön with a Y chromosome chances to fertilize the ovum, the child will be a boy. If, on the other hand, the spermatozoön carries the father's X chromosome, the child will be a girl. Thus the father who is disappointed with having fathered a daughter has no cause for blaming his wife!

The Y chromosome seems to be somewhat defective. It is only about a third as large as the X chromosome and contains a proportionately



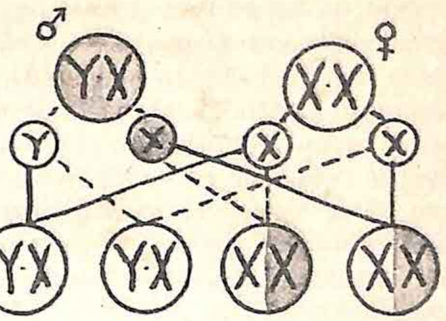
A. In the male, reduction-division results in germ cells, half of which carry an X chromosome and half of which carry the Y chromosome.
B. In the female, reduction-division results in germ cells, each of which carries an X chromosome.
C. The sex of the child depends upon whether one of the father's Y chromosome gametes or one of his X chromosome gametes chances to fertilize the ovum. In this case, the child will be male.



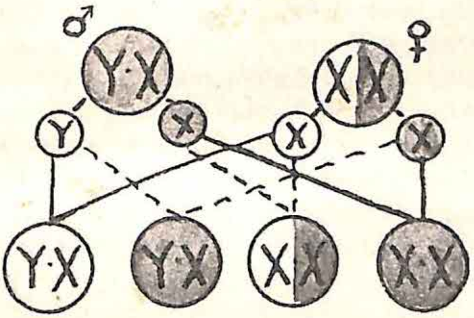
Color blindness: A normal male and a female with genes for color blindness on one X chromosome have one chance in four of having a color blind son, and one chance in four of having a daughter who carries the color blind gene as a recessive trait.

smaller share of DNA. Whatever genes the Y chromosome may carry do not seem sufficient to affect the expression of those on the X chromosome. Therefore a recessive trait carried by an X chromosome (such as color blindness or hemophilia) will turn up in the male phenotype because there is nothing in his Y chromosome to counteract the effects. On the other hand, the female would need to have received the recessive genes in both her X chromosomes, one from the father and one from the mother, in order to demonstrate the phenotype. Furthermore, the color blind male will pass along his defective X chromosomes to all of his daughters. If they have received normal X chromosomes from their mother, they will not be color blind, but the chance assortment of chromosomes dictates the likelihood of their passing along the defect to half of their children. This is illustrated in the diagrams.

Sex-linked characteristics, then, are those that follow the distribution of the X chromosome in both sexes, finding expression in the male because



A color blind male and a normal female would have normal sons, but the father would pass on his color blindness to all his daughters, who would carry the gene as a recessive trait.



A female can show color blindness in her phenotype only if she inherits the trait from both mother and father.

of the inability of the Y chromosome to cover up the effects, but expressed in the female only if both X chromosomes carry the trait.

What Do We Inherit?

What do we inherit? When the ordinary individual asks this question, he is usually interested in specific characteristics—did he get grandmother's red hair, Aunt Mathilda's migraine headaches or his father's ability in mathematics? Although some traits known to be inherited have already been touched upon in this chapter, it must be confessed that we are far from having all the final answers.

There is little doubt that many physical features are transmitted genetically. The color of one's eyes, hair and skin, the structure and distribution of hair, facial contours and appearances, blood type, some kinds of malocclusion of the teeth—these are known to be inherited. The answer to the question about grandmother's red hair is only a halfway "yes," however. Since red hair seems to be a recessive characteristic, the individual who has it must have received *two* genes for red hair, one from each side of the family.

The list can be extended, but only with the introduction of a new factor that plays a part in determining the outcome of an hereditary predisposition. The new factor is *environment*. For example, we know that an individual inherits his general body contours—the tendency to be tall or short, to be stocky and muscular or to be lean and lanky. However, the socioeconomic factors of one's life, probably especially dietary factors, play a large role also. Impoverished environments are associated with impoverished growth. Children of unemployed parents have a slower growth rate in general than children one or both of whose parents are employed. Japanese who migrate to California have children who are taller than those who stay in the home country. While there is probably a genetic limit to how tall the child of short parents might become, environmental factors seem to determine whether the child will achieve this ultimate possibility.

A similar observation must be made with regard to special abilities such as musical talent, artistic ability or those special qualities that characterize a William Shakespeare, a Margot Fonteyn, or an Althea Gibson. In every case some kind of extraordinary endowment must be assumed. Even with years of the best training and most devoted practice, probably not one of us could equal Van Cliburn's performance in winning the International Tschaikovsky Piano Competition. On the other hand, the fulfillment of the hereditary potential is impossible without the appropriate environmental opportunities. Can a child inherit its father's ability in mathematics? The answer would have to be a qualified "yes"—genetic factors are involved, but so is the interaction with the environment.

Questions are frequently raised with regard to the influence of heredity upon intelligence. Here we not only have the problem of the complex interaction between heredity and environment, but we must also face the formidable issue of defining what is meant by "intelligence." We will confront this issue in a later chapter. If one is content, for the time being, to accept intelligence as that which is measured by intelligence tests, some suggestions regarding the hereditary factor can be found from several studies of twins.

Identical twins are developed when one zygote, in the course of dividing and subdividing, somehow splits into two parts, each part proceeding to form an individual. Since the chromosomes of the zygote are replicated with each division, the two individuals will be genetically identical. They will be of the same sex and will resemble each other closely. Fraternal twins, on the other hand, are formed when the mother chances to produce two ova, each of which is fertilized by a different spermatozoön. Genetically, they are no more alike than ordinary *siblings* (children born to the same parents).

If intelligence is inherited, identical twins with their identical heredity should be very similar in intelligence. And, as a matter of fact, this is pretty much what has been found. Identical twins, when tested with standard intelligence tests, do resemble each other more than fraternal twins or ordinary siblings are likely to resemble each other.[1] Furthermore, the greater resemblance of identical twins as compared with fraternal twins seems to persist into later life. A study of 51 pairs of twins, all over 60 years old, showed that the 30 pairs of identical twins differed from each other significantly less than did the 21 pairs of fraternal twins on tests of vocabulary, digit span, digit-symbol substitution and block design.[2] It might be suggested here that identical twins are usually dressed alike and are perhaps treated more alike than fraternal twins or ordinary brothers and sisters. Perhaps their environment is more similar and could thus account for the similarity in tested intelligence. A study of identical twins who were separated at an early age and reared in different households helps in assessing this possibility. Nineteen such pairs were located. Despite their having been reared apart, their similarity in intelligence remained higher than that of fraternal twins reared together. However, the correlation was not as high as that obtained of identical twins reared together. Furthermore, the lowered correlation was produced mainly by four pairs of identical twins who had been placed in widely contrasting environments.[1]

The twin studies, therefore, do provide evidence regarding a genetic factor in intelligence. However, even for identical twins possessing the same genetic attributes, environment does seem to make a difference. The tentative conclusion suggested is that while basic intellectual potential is inherited, the level of intellectual performance achieved by an individual seems to be determined in some measure by environment.

When we inquire about the inheritance of traits of temperament or personality, the answers become even less certain. Now the task of separating the strands of heredity and environment becomes so difficult that even the intensive investigations of the past 20 years have not produced much reliable information. "Johnny gets his stubbornness from his father's side of the family," mother will say. Or, "Mary has inherited her practicality from my family; we're all realists." Such assertions, based upon observations of familial characteristics, ignore the possibility that stubborn behavior or emphasis on practicality have been acquired through close association with others displaying the traits. In other words, it could certainly be suggested that the behavior has been "learned."

So, with regard to temperament and other personality characteristics, we simply don't know. There is some indication that individuals begin life with differing "activity levels." As any nurse with experience in the newborn nursery can testify, neonates are not all alike. Some sleep peacefully through all of the noises and the various attentions to their needs; others are awake and fighting at the flick of a light switch. Investigators at the Fels Institute in Ohio rated neonates with regard to their patterns of activity. Some were rated as "very active," some as "moderately active" and some were rated "quiet." The babies were studied for three years and found to merit the same descriptions throughout that period. That is, babies who seemed very active as neonates tended to be rated very active

We don't know whether temperament and personality are learned or inherited.

as three-year-olds, while those who had been quiet neonates tended to retain that kind of behavior pattern.[3] But whether such individual differences can be attributed to heredity or to differences in the prenatal environment (about which we will speak shortly) or, indeed, to postnatal environment, has not been ascertained. We must await the accumulation of more evidence before a case can be built for genetic transmission of temperament or other personality characteristics.

Nor are we sure about the role of heredity in certain physical and mental illnesses. We know that many afflictions seem to have a familial history—diabetes, tuberculosis, allergies, arthritis, heart disease and high blood pressure, cancer, epilepsy, sinus trouble and migraine headaches, to mention but a few. However, since the question of whether or not the condition will actually occur in a specific individual seems also to depend upon environmental circumstances, we speak of inherited *tendencies*.

One might speak, then, of having inherited a tendency for migraine headache. Similarly, mental illness can be shown to "run in families." Data on twins, assembled in 1953, indicates that if an identical twin is diagnosed as schizophrenic, the chances are 86 in 100 that the other twin will develop the same disorder. However, if one fraternal twin develops schizophrenia, his twin runs a risk of only 14 chances in 100 of becoming so afflicted.[4] Nevertheless, the conclusion that mental illness is inherited is still too hasty. It may be that environmental factors which tend to produce mental illness in one member of a family could wreak the same havoc upon another member of the family. It is possible that the evironment of identical twins, as we have mentioned, is more similar than the environment of fraternal twins and could subject them to more similar stresses. Although the possibility of an inherited factor in such illnesses cannot be discounted, more decisive information will be necessary before any conclusions can be drawn regarding its operation.

The Importance of Heredity

Although our information about exactly "what" is inherited by an individual may seem somewhat equivocal, the importance of heredity to psychology cannot be doubted. The genetic transmission of one's sex tends to determine at the very beginning the attitudes and expectations of the parents toward the child. Boy or girl? The moment that important question is answered, a whole stream of forces is set in motion. Even the way one holds the baby is different if he is little Butch from what it is if she is dainty little Rosemarie. One's particular body and muscular coordination has a bearing on behavior. An awkward lass who is forever stumbling over her own feet may begin to contrast herself unfavorably with lissome friends. The boy who is slight in build and light in weight may be a bitter disappointment to papa, who had dreamed of cheering for his son's football team. How many lesser Cyrano de Bergeracs have developed a chip on the shoulder toward the world because of a prominent nose or protruding ears?

Again, it is necessary to point out the interchange between heredity and environment. If the society into which one is born places a premium on light skin, to have inherited a dark skin will inevitably affect the kinds of transactions possible in that society and will have certain effects on behavior.

We have noted the difficulty of disentangling the effects of heredity from those of environment when the focus is upon specific individual characteristics. However, when the inquiry is directed toward man collectively, the role of heredity is clear. Man's particular heredity dictates his particular exercise of the organismic capacities listed at the opening of this chapter. Man inherits all of the morphological details which distinguish him as a member of the genus *Homo*, species *Homo sapiens* (thinking man). Man's remarkable protoplasmic structure maintains its "steady state" by means of intricate internal mechanisms and biochemical balances, many of which are still unclear. Much of the future of medicine will be written in terms of new knowledge about hormones, enzymes, blood components and the function of the cell membrane in restricting or permitting passage of deleterious substances.

Though baby is born equipped to perform the basic physiological processes, his heredity also determines growth processes that are extremely slow compared to those of other organisms. This means that the human baby remains dependent for a very long time; this makes the human family in one form or another necessary and also makes possible the learning of complicated cultural patterns of behavior.

Like all other organisms, man is sensitive to and responds to his environment. Lacking the natural endowment of heavy protective covering, he must shield himself and his dependents from extremes of weather.

Man's heredity has set generic limits and provided the possibility of removing them.

Because of endowment, he walks upright, freeing his forelimbs for complex manipulations. These limbs, however, do not permit flight like that of birds nor are they particularly well suited for bare-handed combat. His eyes are not as keen as those of a hawk, nor is his sense of smell especially developed for tracking prey. The distance he can run and his speed are not notable. Such observations suggest that man's inheritance sets a number of limits upon his capacity for certain accomplishments. Indeed, it might seem that man is, by nature, rather poorly equipped for survival in a world of fang and claw, bitter cold and jungle heat. And this would be so were it not for the genetic gift of a brain structure and nervous system capable of marvelous operations. Man's capacity for the use of symbolic processes, for example, offers him the advantage of a transmission of cumulative experience not possible for any other organism. Because of man's ability to learn and to invent, most of the limitations of his physical endowment have been overcome. He has not needed to adapt to his environment; in many instances he has become the master of it.

Man's heredity, then, has both set genetic limits and provided the possibility of removing them. This is a most remarkable paradox which will be explored further as we proceed.

Summary

1. Man shares with all other organisms certain life-promoting capacities. In simple forms of life, these basic organismic properties are the biological predecessors of much which becomes psychological in higher life forms. The capacities include maintenance of a kind of internal dynamic equilibrium, sometimes called homeostasis, which includes a vast number of biochemical balances as well as the entire process of nourish-

ment and elimination of waste. In addition, all organisms sense and respond to their environment, and possess a life cycle which includes growth, development, reproduction, and decline.

2. Although the essential unity of all life is established on this biological base, the modes by which each organism exercises its capacities are very different. The individual qualities of organisms, as well as their basic properties, are transmitted by means of heredity.

3. In human heredity, the process of meiosis or reduction-division, as well as the occasional crossing-over of chromosomes, provides enormous potential variability in heredity.

4. The actual determiners of heredity are genes, carried in 46 pairs of chromosomes. Some genes are known to be dominant, some recessive. A dominant gene will cover up the effects of a recessive one, so that the dominant trait will show in the phenotype. In order for a recessive characteristic to appear, the genotype must be homozygous.

5. The chromosomes which determine sex are called X and Y. A female has two X chromosomes, while a male has an X and a Y. Since the process of reduction-division creates gametes from the father carrying either an X or a Y but all the gametes from the mother must carry X chromosomes, it is the particular spermatozoön from the father which determines whether the zygote will obtain an X chromosome to become a female or a Y to become a male.

6. The X chromosome sometimes carries genes which become manifest in the male phenotype because of the inability of the Y genes to counteract the effect. These characteristics, which include color blindness and hemophilia, are termed sex-linked. In order for them to be expressed in the female phenotype, the genotype must be homozygous.

7. While it is known that most of our physical attributes are transmitted through inheritance, environment plays a role in determining whether a particular genetic potential will be achieved. This is particularly true of special abilities and intelligence.

8. We do not know whether characteristics of temperament and other personality attributes have a hereditary factor or whether these should be attributed to the environment. There does seem to be a hereditary influence in development of certain diseases and in development of schizophrenia, but how it operates has not been ascertained.

9. The inheritance of the human brain and nervous system which makes man the "thinking organism" is probably man's most priceless gift, providing almost unlimited possibilities for overcoming his genetic handicaps.

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Chapter 4 HUMAN BEGINNINGS

The discussion of heredity has emphasized its importance in any consideration of human behavior. We have seen it establishing certain limits and certain potentialities for each human being. We have noted that the hereditary process introduces the possibility of enormous variation among individuals. Even children from the same family may differ a great deal among themselves and from their parents. This accounts for the rigorous attention to identification of newborn babies by means of footprinting and name bracelets immediately after birth; to match up new babies with their parents on the basis of similar appearance would be next to impossible.

Also noted was evidence that the environment interacts with heredity. The environment can provide opportunities for the expression of a hereditary trait, thus encouraging the development of a Mozart, for example. Or it can set up roadblocks and barriers so insurmountable that even the best hereditary potential "never has a chance."

Therefore, it is apparent that though the hereditary factors which one will carry in every cell of his body throughout his entire life are set at the moment of conception, the genes do not operate in a vacuum. Indeed, they would be unable to manifest any effect at all were it not for the interchange with environment. While *environment* is usually taken to denote the external world and all of its various direct or indirect impingements on the individual, there are two other influential, but lesser known, environments which we must discuss now. These are: (1) the intercellular environments which provide the immediate media for gene interaction and (2) the uterine environment which is the abode of the developing baby.

Intercellular Environment

A new life begins with the union of spermatozoön and ovum to form a zygote. Now, by orderly division and redivision whereby the zygote first becomes two cells, those two become four and the four divide into eight, the process of developing the billions of cells which comprise the human body is under way.

At first each cell is exactly like the cell which divided to produce it. However, the human body, as you know from other studies, is composed of many different kinds of cells. There are the striated muscle cells, the spindle-shaped cells of involuntary muscles, the irregular cardiac muscle cells and the cells with elongated processes which make up nervous tissue, to cite but a few. Each of these is identifiably different from the others and each has a wholly different function. How do *different* cells form from cells which are busily replicating themselves, so that each is precisely like another?

The dramatic answer, when it is finally wholly unraveled, is likely to win its discoverer a Nobel prize. The bits and pieces of information so far uncovered promise that this still-unsolved enigma is truly one of the most remarkable of the life processes.

The first cells of early embryological development are, as we have noted, all alike. They are *undifferentiated*. However, at some specific period during development, according to some kind of miraculous timetable and by some amazing means which is not at all understood, the parent cell gives birth to a particular kind of a cell—nerve or smooth muscle, for example. The cell has *differentiated*. Thereafter, the specialized cell will produce only its kind and no other.

Transplantation studies on a number of lower forms of life, such as salamanders and frogs, suggest that the intercellular environment plays a major role in cell differentiation. Early in development an undifferentiated cell can be transplanted from one spot to another on the embryo without discernible effect. That is, if transplanted to the future mouth region, it will form mouth tissue; if transplanted to the eye region it will turn into the appropriate eye tissue on schedule. Apparently what a cell is to become is, to some extent, influenced by the environment of cells surrounding it.

However, again we are forced to recognize the factor of heredity. Transplant undifferentiated cells from the embryo of one species to the mouth region of another species and while the cellular environment will, indeed, promote formation of a mouth, it will be a mouth characteristic of the original donor, not the host! Cell differentiation and development, then, must be influenced by both intrinsic genetic properties and the cellular environment.

Critical Period

Still a third factor is crucial to the process, the "timetable." Cellular differentiation proceeds according to a kind of inherent schedule. First one group of cells become specialized, thereafter reproducing others of the same type and proceeding to form the particular tissues and organs associated with that kind of cell, then another group begins to undergo differentiation.

This orderly pattern of embryological development seems to be inexorable. There is a particular "critical period" for the arising of each specific kind of embryological tissue and the structures it is to form. If some untoward interference occurs at that time, the structure will be damaged. Its "critical period" has passed and the time for ascendency of another group of cells has arrived.

Thus we are now able to suggest that unusual circumstances at a particular time during early pregnancy result in specific types of congenital defects. For example, the stress which produces conjoined (Siamese) twins must have occurred during the first two weeks after fertilization when complete separation of the two individuals was somehow prevented. Cleft palate seems to result from some interference with the "schedule" during the seventh to tenth weeks when the bones of the palate form and normally close. The eighth week brings development of the base of the skull, the wall of the heart, the nasal bones and the fingers—all structures which are damaged in mongolism. Something, perhaps influenced by that strange extra chromosome, must occur at this time, blighting the structures and resulting in an afflicted child.[1]

And so, even in embryological development, we can glimpse the interrelationships of the three factors which we will have to take into account over and over again in attempting to understand human behavior —heredity, environment and the timetable of development.

The timetable, the orderly pattern of development, is termed *maturation*. We see it here as the essentially unyielding schedule for cell differentiation. We will see it continuing throughout fetal life as the organs and systems take shape and become functional. We will discuss it further as an enduring influence after baby is born, still operating as a kind of built-in schedule, determining when baby will sit, creep, and walk, setting the stage for many types of learning, regulating the onset of adolescence.

We will meet the notion of "critical period" again, also. It has become an important *construct* for psychology with regard to personality development. Extending, by analogy, what is known about early embryological development to the realm of personality, the theory suggests that there is a pattern, an orderly sequence which is followed as the personality unfolds. Within a certain range of variability, it seems possible to observe a timetable, with behavior characteristic of one period followed by behavior characteristic of the next period. Furthermore the theory suggests that environmental circumstances may interfere with the developmental sequences at certain "critical periods" and significantly alter the trend. The construct of critical periods underlies the "ages and stages" concept of childhood and is implicit in the idea of *fixation*, the arresting of development at some certain point during the formative years. All this will be detailed later.

Now, having considered the beginning of human life and noting the importance of the interaction of heredity, environment (in this case, the intercellular environment) and the maturational timetable, it is necessary to take heed of still another environmental influence, that of the uterine surroundings where the tiny organism starts its development.

Prenatal Environment

It is customary to reckon an individual's age as beginning with birth into this world. This ignores, however, some ten lunar months of existence before that event. There is a tendency too to think of the prenatal environment as pretty much the same for all developing babies. But this neglects possible variations in intrauterine conditions which may subject one fetus to stresses quite different from those exerted upon another.

It is known, for example, that the quality of the mother's diet can affect not only her own health, but that of her offspring. A study conducted in Canada offers evidence that mothers on nutritionally adequate diets were in better health throughout their pregnancies, averaged some five to nine hours less in labor and had strikingly lower incidence of complications such as toxemia, miscarriage, premature births and stillbirths than those whose diets were poor. Moreover, the babies of the "good diet" group suffered fewer illnesses during the first six months of life.[2] The incidence of stillbirths and miscarriages increased greatly in Europe during World War II. The association with malnutrition is shown by the similarly increased incidence of congenital rickets, severe anemia and tuberculosis.[3]

Startling evidence of the possible persisting effects of previous malnutrition can be taken from a study, conducted in Germany after World War II, of Jewish women who had survived concentration camp experiences. Although they had all suffered indescribable hardships, at the time of the study the ordeal was several years past. Nevertheless, out of 1,430 neonates, the proportion with congenital defects greatly exceeded normal expectancy. Twelve were born with mongolism (Down's syndrome) which exceeds the expected proportion four to six times. While it might be that the terrible years these women managed to live through had other consequences, the doctor conducting the study suggested that the starvation diets were so damaging to the maternal organism as to make the uterine environment provided the unborn baby inadequate, even after the period of deprivation had ended.[3]

A second kind of prenatal influence has to do with the products which may be introduced into the blood stream of the fetus. It is, of course, well known that the blood streams of mother and baby do not intermingle during uterine life. The minute absorbing projections of the placenta, the *villi*, dip into tiny, free pools of maternal blood in much the same way that you might dip your finger tips into small individual pools of water. In such case, the skin of your fingers would prevent the water from entering your blood stream. And in quite the same fashion, the "skin" of the villi excludes the maternal blood. The "skin" of the villi, however, is a remarkable type of semipermeable membrane which permits various nutrient elements from the mother's blood to enter and waste products from the infant to pass out. Thus, the cell walls of the placenta act like a filter, screening out molecules as large as blood cells, but permitting passage of very small molecules of gases, sugars, fats and some proteins.

The entire question of what the normal placenta will or will not let through has not been answered. In addition to the vital exchange of food and wastes, it has become apparent that certain viruses can transverse the barrier. An epidemic of German measles in Australia in 1941 left in its wake a residue of blind, deaf and mentally retarded infants, some with heart defects, born to women who had contracted the infection in the early stages of pregnancy. Though German measles had previously been thought to be a mild infection warranting no great concern, pregnant women are now urged to take every precaution to avoid becoming infected. Some doctors suggest that little girls might well be deliberately exposed to the disease during childhood, since a childhood infection will produce a degree of protection.

It should be noted that the damage done by a virus in the intrauterine environment is, as one would anticipate, greatest during the first 12 weeks of pregnancy, when it interferes with one or several critical periods of cell differentiation.

Other viral or bacteriological agents can also affect the developing organism. The influenza virus A seems to be particularly lethal to an unborn child. Poliomyelitis, especially during the first three months, can have disastrous effects. If the bacteria that cause syphilis enter the uterus during the first three months, a miscarriage is the most likely result. If infection occurs after that time, the child may be born with signs of congenital syphilis. Tuberculosis can be transmitted through the placental membrane, frequently causing death to the fetus. If the child is born with tuberculosis, his survival is in doubt.

The thalidomide controversy has probably alerted most of us to the dangers of drugs taken by the mother. Thalidomide seems to be most toxic to the developing child during the period from the twenty-seventh to the fortieth day after conception, though there is evidence that it may continue to have effect even later. The effects of a mother's smoking have been shown in the pronounced increase in fetal heart rate. Some of the

BASIC SEVEN EVERY DAY!

Health education is an opportunity and a responsibility.

drugs used during labor may result in infants showing signs of respiratory difficulties or oversedation.

There is even some suggestive evidence regarding the possibility that maternal emotional states have some effect upon the developing baby. It now seems possible that chemical and hormonal by products of strong emotions may pass through the placental barrier, producing irritating changes in the fetal system. Emotional upset of the mother was correlated with greatly increased activity of the fetus, lasting for several hours. If the emotional duress was prolonged, the heightened activity might be noticed for several weeks. Furthermore, it was indicated that mothers who were emotionally disturbed for long periods during pregnancy gave birth to babies who seemed to be hyperactive, irritable, and given to excessive crying. It is not known whether these adverse manifestations persist in the child's later development, but apparently there is a possibility that an initial handicap may be visited upon the child before he is born.[4] Corroborative evidence is offered by a study of rats. If the chemical secretions associated with strong emotion are injected into the mother rat during a particular period of pregnancy, almost 90 per cent of the young are born with cleft palates.[5]

Knowledge of the importance of the intrauterine environment in providing conditions that either encourage optimum development or place the growing baby at a disadvantage would seem to have large implications for public health and for the nurse as teacher. Although some of the difficulties are beyond a mother's control, there are others for which effective health education could spell the difference. Certainly your patients and those who turn to you for counsel can be helped to become aware of the importance of good nutrition during pregnancy. In one public health clinic where pregnant women were offered free vitamin and mineral supplements, it was found that many of the mothers simply failed to return for either the vitamins or the free prenatal checkups that accompanied them. What an opportunity for an enthusiastic nurse-educator!

Certainly the nurse has a responsibility to teach the dangers of indiscriminate self-dosing, especially during pregnancy. Figures on the quantities of aspirin, tranquilizers and other over-the-counter drugs consumed daily by Americans are truly frightening. If your word will send only one pregnant woman to her doctor before she takes a medication, you may prevent a disaster. You will see patients who are emotionally upset because of fear of pregnancy. Such cases will make great demands on your powers of gentle reassurance, your ingenuity and your thoughtfulness. But again, helping but one woman to look forward to her pregnancy and delivery with confidence could have an importance which is impossible to foresee.

Summary

1. When we speak of environment we are usually speaking of the external world and all the forces which affect the individual either directly or indirectly. However, two other environments merit consideration. These are the intercellular environment of embryonic development and the intrauterine environment which shelters the baby during prenatal life.

2. The first stages of zygote division produce cells which are all alike or undifferentiated. Later, however, apparently influenced by the cellular environment in specific locations on the embryo, cells begin to change or differentiate into the kinds of cells associated with the tissues which should develop at that particular spot. After differentiating, the cell produces its own kind and no other.

3. A kind of "timetable" enters into this process also; cells differentiate according to a kind of inherent schedule. If something interferes at the time when a group of cells should arise, the structure which they would have formed will be damaged. There is, apparently, a "critical period" for each phase of early development. If one critical period is lost, it is irretrievable. Its time is gone and the critical period for another group of cells has arrived.

4. The "timetable," the orderly process of development, is termed maturation. Thus, even in man's earliest beginnings, the three great influences on his life and his behavior can be seen interacting. These are heredity, environment and maturation.

5. Intrauterine environment is also important. Here we deal chiefly with substances which, by passing the placental barrier, can adversely affect the unborn child. Viruses, certain bacteria and drugs are known to cause damage. The most dire of the congenital defects seem to be produced during the first three lunar months of existence.

6. The nurse as a teacher could have great value in helping pregnant mothers to understand their own responsibility for maintaining optimum conditions for the growth of a healthy infant.

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Chapter 5 *LEARNING*

We have been concerned, up to this point, with life's earliest beginnings. We have tried to understand heredity as the biological "given," setting up structure, sex, physiognomy, capacities and sometimes, unfortunately, defects. We have also seen that even in the very beginning heredity becomes interwoven with two other pervasive influences, environment and maturation, until the strands are indistinguishable. It need hardly be said that an argument about which is the more important of these influences is time wasted on nonsense. There would be no hereditary effect in the absence of environment, nor an environmental effect without heredity, and the influences of both are monitored by the process of maturation.

Now we will focus, for more detail, upon environment. Although the influence of environment is to be discussed from a number of different vantage points throughout this text, this chapter and the following one will take up the chief means by which environment wields its force—the process of learning.

Human beings do not have a monopoly on the capacity to learn, as anyone who has had a beloved dog or cat can testify. Even the lowly snail can eventually learn to traverse a simple T maze successfully. Man alone, however, can master the kinds of learning that transform him from an utterly helpless, dependent infant into an individual capable of writing a poem—or constructing an atomic bomb. It is impossible to survey the anthropological studies of the past thirty years without being impressed by the amazing possibilities of human learning. The same tiny baby can learn, under proper conditions, to guide a dugout canoe through foaming rapids, to hunt seals in the frozen sea, to land a jet aircraft on the precarious deck of a carrier or to navigate a rendezvous with another capsule in outer space. He can be taught to esteem money or horses or etched sheets of copper as symbolic of his worldly estate. He may learn to identify feminine beauty with obesity, with elongated ears or enlarged lips, with curly hair or with tiny feet. He can be trained to grow up cruel, treacherous and hostile, or gentle, loving and kind.

Paradoxically, both a great deal and yet very little is known about learning. We still know almost nothing about the changes which learning is presumed to effect within the central nervous system, although few fields of inquiry have been so intensively studied by psychologists as the one which attemps to understand the nature of learning in both animals and man.

Learning: A Definition

For our discussion, without forgetting that in order to learn at all the individual must have a genetic capacity, we are going to take for granted the hereditary factor. We will presume that our baby has been born with a good hereditary potential for the learning which begins almost immediately.

Immediately? It is necessary to qualify that statement a little, and, in so doing, point up one of the problems which has confronted psychologists in their study of learning. Though each of us "knows" what learning is, we'd probably be hard put to formulate a definition of it. To study learning, the psychologist needs an operational definition. He must have something he can observe, from which he *infers* that learning has taken place. Thus it is plain that learning is a *construct*—it is the "explanation" for certain kinds of behavior which can be observed.

An operational definition for learning might go something like this: learning is a *relatively permanent change in behavior brought about by responding to a situation.*

This means that the psychologist would have to be able to demonstrate that the organism's behavior changed as the result of a situation, and furthermore that the changes persisted at least for a period of time, in order to be able to suggest that learning had taken place.

Learning is a relatively permanent change in behavior brought about by responding to a situation.

How Early Does Learning Occur?

Here is the necessary qualification of the statement that opened this discussion. Do babies begin to learn immediately after birth? The repertoire of responses of a newborn baby is really too limited to permit much by way of observation of "a relatively permanent change in behavior as a result of responding to a situation." However, there is some fragmentary evidence that suggests that babies *can* learn during their earliest days of existence.

As a matter of fact, there is one study which seems to show that it is possible for the fetus to learn during the last two months in the uterus. In this particular investigation, it was found that vigorous movements of the fetus could be elicited by making a loud sound close to the mother's abdomen. However, when a vibrator was applied to the abdominal wall, the fetus did not respond. Then the two types of *stimuli* (a stimulus is an event or situation which produces a response, or is capable of producing a response) were presented simultaneously. The vibrator was applied for five seconds and a loud clang was sounded near the mother's abdomen at the same time. Each time, of course, the fetus would move.

Finally, after some 100 such presentations of the two stimuli, the vibrator was used alone, without the sound. Lo, the fetus in most instances moved in a manner similar to that previously produced by the clang. If the vibrator was applied again, still without the sound, the fetus would move again.[1] Clearly, something had happened to change behavior. A stimulus which once elicited no response, now produced a rather dependable (i.e., relatively permanent) response. Behavior changed in a manner which conforms to our operational definition of learning. The situation can be diagramed thus:

Before Learning

Stimulus	*Response*
Loud clang (alone)	Vigorous movements
Vibrator (alone)	No observable response
Simultaneous Presentation	
Loud clang	Vigorous movements
Vibrator	Gradually begins to acquire response previously attached to the sound
After 100 Paired Presentations	
Vibrator (alone)	Vigorous movements

Although this study seems to demonstrate that the fetus is capable of learning during his later months in the uterus, it seems obvious that his opportunities for learning are very limited. But what of babies newly born to all the sounds and sensations of the world?

Although the opportunities for learning would seem to be unlimited, the neonate is capable of only a limited number of responses. His development has not progressed far enough to permit him to attend to many stimuli. What are the response possibilities of a normal newborn? He can cry. He sneezes. He yawns, moves arms and legs, and can lift his head slightly when placed prone. He can apparently taste to a certain extent, reacting positively to sweet or salty substances and negatively to bitter or sour ones. He reacts to strong odors, and can focus his eyes, momentarily, on a light. If the palm of his hand is stimulated, the fingers will curl in what is called the "grasping reflex." If he is supported and his feet placed on a flat surface he will make stepping movements. He will suck if his mouth is suitably stimulated. He responds to noise (as might be expected from the study of the possibility of fetal learning), though a residue of amniotic fluid in the ear for the first few days may be a hindrance. He is sensitive to touch and pressure, slightly responsive to pain, with the face showing the greatest sensitivity. Circumcision may be performed during the first two weeks without anesthesia and without the child's showing any great distress.

Although it is difficult to devise a situation in which a "relatively permanent change of behavior" can be observed, several of these responses have been used in studies of whether the neonate is capable of learning. A representative investigation seems to support the possibility. A group of 60 babies was divided into three groups of 20. One group was fed by bottle, the second group was fed by cup and the third group was nursed. In daily tests of how long a baby would suck on a nonnutritive object placed in his mouth, the results showed that after the first three days the breast fed babies would clearly suck longer than either bottle or cup fed babies, with the cup fed babies sucking the least. While the study was limited and observations obtained only over a ten day period, it does seem to support the inference that the breast fed group *learned* to respond to the oral stimulus with more extensive sucking, while the cup fed group who obtained their nourishment without sucking did not learn to respond in the same fashion. The authors suggest that the lessened sucking of the bottle fed babies may have occurred because the pliable rubber nipples did not promote a strong response.[2]

While such an investigation seems to offer some evidence that the newborn infant can learn something, perhaps on a broad, undifferentiated basis, precisely *what* he can learn is still in doubt.

Nevertheless, there is certainly a trend away from considering the first few weeks of a baby's life as inconsequential in terms of learning. Although what he learns may be only the most general kind of global perception, it might be suggested that some kind of a difference could occur between a situation in which he is permitted to cry for long periods of time unattended, and a situation in which his cry brings immediate succor.

Partly in response to suggestions that even the first learning experiences of the infant may have importance, and partly in recognition of the fact that the mother herself might well become better acquainted with her new offspring than she can during the few feeding times in the hospital, many hospitals are attempting a type of individualized neonatal care. Sometimes called "the Cornelian corner" after that famous mother who pointed out her children as her "jewels," the plan usually provides an arrangement in which the new baby is placed in the mother's room or in an adjoining cubicle. When he cries he can immediately be picked up and comforted. The rhythm of his waking and sleeping can be observed by his mother, so that she is not confronted with a strange little bundle of responsibility when the time comes for her to take over his care.

Even in the nursery, emphasis is being placed on the individuality of each small infant. The nurse is urged to be attentive to the particular needs of each, to feed the infant when he seems hungry, to take time out to cuddle and caress him. The rigid schedule that once characterized neonatal care is being relaxed.

It was once believed that crying "exercises baby's lungs," but it is now suggested that crying is his only means of signaling distress and, moreover, that earnest efforts should be made to alleviate that distress. One great student of human behavior, Harry Stack Sullivan, insisted that long, long before the infant is able to understand speech and gestures he "senses" by some process not yet understood the feelings of the people who take care of him.[3] Sullivan called this process *empathy*, describing it as a kind of emotional linkage between the infant and (usually) his mother.

Empathy may give comfort to baby.

It has since been suggested that the infant may respond to very subtle stimuli, the slight tensions in the arm muscles of the person who is carrying him, small differences in the way he is picked up and handled, minute changes in the tone of voice. This is an idea which does not lend itself very readily to systematic testing. But although it has not been demonstrated conclusively that babies are able to appreciate efforts to comfort them, it would seem wiser to err on the side of behaving as if they are, rather than make the bland assumption that they are not. If we presume that the infant is totally unaware and feels nothing, we can hardly be concerned. If, on the other hand we actively attempt to communicate solicitude, the emotional contagion which Sullivan calls "empathy" might have a two way effect—not only transmitting some message of comfort, but helping us to become just a litle more sensitively attuned to the needs of others. Certainly little harm can be done by an effort to lighten the distress of another, even if that other is a tiny baby. Perhaps the attempts to respond to a baby's signals of discomfort will provide valuable practice in becoming alert to signs of feelings in others, in "staying on the same wave length" with another which is an essential step toward tenderness and compassion.

Maturation

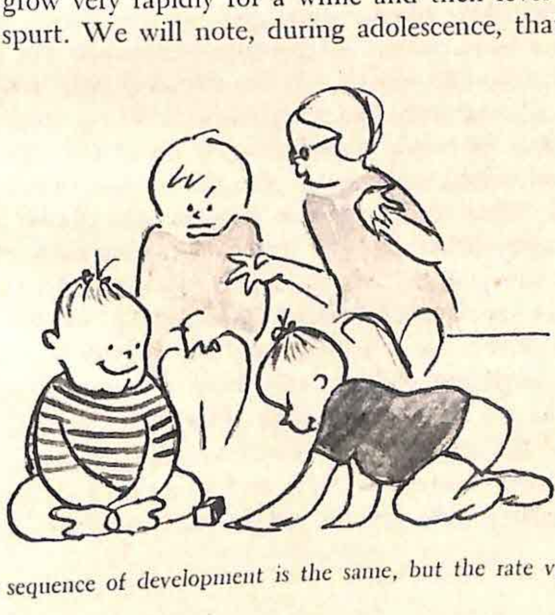
Information on the earliest possibility of learning for the infant is extremely limited. However, we are quite aware of the impossibility of many kinds of learning. Each of us knows that it would be futile to attempt to teach a newborn to walk. Why? Because he "isn't ready." Neither his musculoskeletal system nor his nervous system is yet developed enough to support this kind of behavior. But walk he will, we are confident, "when the time comes." The whole notion of a "readiness" for certain kinds of learning, of a "proper time" for acquisition of particular skills, is, in reality, a recognition of the factor of maturation. The developmental "timetable," even after birth, must mesh with environmental stimuli for learning to take place. Maturation can be defined as the growth and development of the organism to the point where certain kinds of learning become possible.

There are some general characteristics of the process of maturational development which ought to be noted.

Differentiation. The concept of maturation was first introduced in Chapter 4 as a schedule for cell differentiation, by which cells that are all alike become specific cells with specialized functions. Maturation during later development continues to proceed from the *general to the specific.* The newborn baby's behavior is sometimes described as *mass activity*; when he cries, he cries with his whole body. There is much undifferentiated waving of arms and legs. It will be a while before he is able to perform specific actions, such as those involved in deliberately bringing a bottle to his mouth. When he is finally capable of closing his hand around a toy block, it will be a whole-hand action. Later, as maturation progresses, he will be able to accomplish the intricate manipulation of closing thumb and forefinger to pick up a Cheerio from his high chair tray.

Direction. There are two directional sequences of growth, one termed *cephalocaudal* (head to tail) and the other termed *proximodistal* (from the midline of the body outward to the extremities). Development proceeds in a head-to-foot direction. This is conspicuous in the development of the embryo, which at nine weeks is fully half head with only a rudimentary body and still more primitive arms and legs. Later on, the infant will be able to control his head before his shoulders, and his arms before his legs. Development also proceeds from the midline of the body out toward the extremities. The limbs first appear on the embryo as tiny outpouchings called *limb buds*. The ends of the buds then form paddle-shaped hands and feet and last of all the fingers and toes appear. Functionally, the infant will be able to use his arms before his hands and his hands before his fingers.

Asynchronous growth. This characteristic of maturation was also met during our discussion of prenatal development. Growth does not proceed evenly for body structures. In the embryo, there is a period devoted to preliminary formation of the cranium. Then, in turn, other parts take the lead—now the heart, now the respiratory system, now the organs of digestion. While one part is developing, the others mark time. The ever-shifting focus of development continues in later life. While baby is intent upon walking, his progress in speech will fall by the wayside for a bit. He will grow very rapidly for a while and then level off; then will come another spurt. We will note, during adolescence, that some of the



The sequence of development is the same, but the rate varies.

difficulties of the period seem to be occasioned by the uneven physical and psychological development.

Maturation, then, proceeds from the general to the specific, in a head-to-feet direction and from the middle of the body out to the periphery. It is also characterized by uneven development with some structures and functions taking precedence while others "wait their turn." The sequence of development is pretty much the same for everyone, but there is a good deal of individual variation in the rate. Thus some babies begin to roll over at about three and a half months, others at four, others at five. Almost all have accomplished it at six and a half months. Some begin to pull themselves to a standing position by holding on to furniture or other supports by six and a half months, others by seven months, others by eight months. Almost all have begun by 11 months.

Maturation and Learning

The importance of maturation lies in its relation to learning. Many of the behavioral changes in infancy, those which provide the landmarks of development, seem to emerge rather spontaneously when the anatomical and physiological underpinnings are "ripe." Baby smiles, he steadies his head when held in an upright position, he makes sounds, he creeps, he walks. But the necessity of some environmental stimulation is shown by a study of infants in a foundling home in Beirut, Lebanon. Because of the precarious financial condition of the institution, the number of persons taking care of the children was extremely limited. During the first two months of life, the infant was taken out of his crib only for a daily bath. Bottles were propped. There was simply no time for individual attention. The infant's first four months were spent in a crib with its sides covered (for protection from drafts) so the infant saw only the ceiling and the adults who occasionally passed or who attended him. From four months on he was in a larger crib, but the routine and care continued much the same. Only after he began to pull himself up at the crib side and faced some danger of falling out was he placed with one or two other children in a play pen. After the age of one year, he was placed in a play group with some twenty other children under the supervision of an attendant.

When developmental tests were given between the ages of three and 12 months, the children were found to be greatly retarded. There was no test item on which their performance was "normal" (compared to a control group of Beirut children who lived at home). Not one foundling home infant scored above the average of the control group. The investigators attributed the retardation to the restricted environment, which failed to provide learning experiences for test items such as regarding a cube, regarding a rolling ball, picking up a cube, lifting a cup or exploiting paper.[4]

The same study adds a somewhat more optimistic note, however. After the age of one year, when the children were placed in play groups, they did have access to a few balls, wagons and swings. There were some slates, beads and sewing boards. Limited as this equipment was, the environmental stimulation after the first year was apparently sufficient to increase subsequent test scores so that at four, five and six years of age the foundling-home children scored only about 10 per cent below the performances of the home-reared children.

Thus we see that growth and development alone are not enough to account for performance. Maturation requires some environmental support in order for certain behavior to occur at the "proper time."

The other side of the coin has to do with the effects of environmental stimulation *before* maturational readiness. There are a number of studies dealing with this situation. Usually the subjects are identical twins (which holds constant the factor of hereditary potential). Typical is the study of training in bladder control with a pair of identical twins. One twin was given rigorous training starting at the age of three months, while no effort was made to train the other twin. Training was ineffective for 15 months, achieving a successful performance about one time out of five trials. At age 18 months, however, the percentage of success increased sharply. One might be tempted to believe that all the training had at last paid off, except that now training was started for the second twin. Within a few days, he was performing as well as his intensively-trained brother. A reasonable conclusion is that a certain stage of maturation must be reached before any amount of training in bladder control can be effective.[5]

Other studies of giving one identical twin training in such activities as stair climbing, cutting with scissors, reciting digits, learning a ring toss game and maintaining balance when walking on boards of differing widths give substantially the same results. Training before the child is ready is virtually wasted. Indeed, if the premature training is too intensive, it may do more harm than good. McGraw records the case in which there was daily effort to teach a year-old child to ride a tricycle. The child's seven months of futile effort resulted in a complete loss of interest and enthusiasm when he reached the age at which tricycle riding becomes possible.[6]

The practical importance of understanding the interrelationship between maturation and learning can be expressed in the form of an injunction to parents, teachers and all those who are concerned with child training—"Easy does it!" An enthusiastic papa who is overanxious to introduce his small son to playing baseball is letting himself in for many moments of total exasperation. And small son may well become so uneasy about his inability to please daddy that baseball turns into an anathema and papa's well-intentioned purpose is defeated.

Easy does it! A child can't learn till he's "ready."

It is not that we can be sure *when* the child is ready. It is only that, rather than leaping to the conclusion that "He just won't try," or "He really can do it, but he's being stubborn," we might better remind ourselves that maybe he just isn't ready. It doesn't make a great deal of difference in the long run whether baby is weaned today or next month, whether he learns to peg a ball straight and true this year or next.

For the student nurse, understanding the interweaving of maturation and learning has importance for her role as educator. Because of her profession, all during her life others will regard her as an expert in matters of family health and child rearing. Patients and their relatives will seek her counsel. When she becomes a member of the community as wife and mother, neighbors will detail their problems. There will be many opportunities for explaining that one child's rate of maturation may be quite different from that of another, for suggesting that mother let up on the heavy pressure for toilet training and try again next month, for assuring the teen-ager who has been left behind his age mates in adolescent development that his time will come. There will be many chances to point out that behavior is, indeed, a product of both maturation and learning, and that for new behavior patterns, even where learning is an important factor, no amount of prior stimulation or practice will produce the behavior until a certain level of maturation has been reached.

Summary

1. Learning is operationally defined as a relatively permanent change in behavior brought about by responding to a situation.

2. There is evidence of the possibility of learning by the fetus during the last two months in the uterus and by the neonate. Evidence of this kind is difficult to obtain, however, because the response capabilities of fetus and neonate are limited. To devise a situation which might produce

a "relatively permanent change in behavior" and which would in no way harm the infant presents a problem.

3. Maturation is defined as the development of body structures and systems to the point where certain kinds of behavior can take place.

4. Maturation proceeds from the general to the specific. The first activity of the neonate is "mass action." Only as maturation progresses does he become capable of more specific behavior. It would seem reasonable, then, that the first learning, also, may be in response to total situations—that only as maturation proceeded would the child become capable of response to specific stimuli.

5. Maturation proceeds in two directions. One, the cephalocaudal, refers to progress in development from head to foot. The other, the proximodistal, refers to development from the midline of the body out to the periphery. The cephalocaudal sequence can be seen in the fact that control of the head is achieved before control of the shoulders, the shoulders before the rest of the body and the body before the lower limbs. The proximodistal sequence is signaled when control of the arms is obtained before that of the hands, and the hands before the fingers.

6. Maturation is characterized by asynchronous growth. Development does not proceed evenly. Growth takes place in spurts, followed by periods of little change. Different structures and systems mature at different rates.

7. Although the sequence of maturation is pretty much the same for all children, the rate of development is highly individual. One child walks at twelve months; another "isn't ready" until sixteen months.

8. Environment that is severely restricted may retard development. On the other hand, premature training does not seem to hasten development.

9. Though we do not know with certainty the exact time at which an individual child is ready for certain learning experiences, the adage "take it easy" has considerable merit. In particular, parents should be cautioned against pressuring the child for performance of which he may be biologically incapable.

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Chapter 6 KINDS OF LEARNING

In the last chapter we saw that learning is a construct. We cannot observe learning directly. It is possible only to observe "relatively permanent changes in behavior which come about in response to a situation" and thereupon infer that learning has taken place.

We saw, too, that learning is a product of the hereditary potential and the developmental process (maturation) and environmental stimulation. A clear example is the acquisition of language. Man is the only organism known to be able to use symbols as elaborate and complex as those involved in human verbal behavior. Forms of communication among animals have been observed. Bees can "tell" each other about a find of honey by means of an intricate dance which varies with the distance and direction. The distress call of the starlings has been recorded and is being used to frighten these pests out of locations where they are particularly troublesome. Apes and chimpanzees make a wide variety of sounds which, accompanied by physical gestures, warn of dangei, announce the presence of food and indicate friendly or hostile intention. Man alone, however, has the inherent capacity to convert sounds into nonvocal symbols such as printed words, to represent past and future events and to invent a system of shared symbols and rules for their use so that it becomes possible to *talk about* learning a language.

Even with his inherited capacity, though, the human infant does not begin to use language communicatively until his development has proceeded to a certain level—this is the factor of maturation.

Then he will learn the language which is spoken around him. What he hears and observes in the environment provides the stimuli for acquiring his native tongue.

Marvelous though it is, the acquisition of a language is but one aspect of human learning. Think, for a moment, of the status of the toddler, who has only begun his journey toward mastering the complexities of his environment, as compared to the adult he will become. The toddler's locomotion is still precarious. He has yet to learn all of the motor skills involved in hopping, riding a bicycle, swimming, swinging a tennis racket, driving an auto and managing a pencil. While he is probably responding to a few monosyllables such as "no," "bye-bye," "eat," he would be totally unmoved by oratory or even a simple explanation of the dangers in crossing a street. The notion of time, except in rudimentary form (orange juice comes before bath), is incomprehensible. His "world" is confined to his immediate surroundings. His "people" consist of his family. His "laws," if any, are the few prohibitions enforced by his mother. He has no prejudices, no attitudes more profound than an attachment to a certain blanket or a fear of strangers, no ideals, no motives other than the immediate "creature comforts." Nor does this begin to catalogue all the learning which will take place before he reaches "the age of consent."

Learning is so central a process in our lives that it is not often that we stop to examine it. Much of what we learn, as we will see, is accomplished without awareness. It is only when confronted with a problem in learning, such as the necessity of memorizing for an exam, that we might inquire whether there are better ways to learn. Or when faced with the necessity of teaching something to someone else, we wonder if there isn't a possibility of making teaching more effective.

An affirmative answer to both questions can be made. Let us look at the kinds of learning common in all of our lives and search for general principles underlying the infinitely varied behavioral changes which occur as a result of one's lifetime experiences.

Classical Conditioning

A relatively uncomplicated form of learning is the attachment of an established response to a new stimulus. We have already met this form of learning in the study of whether the human fetus can learn during the last two months in the uterus. You will remember that it was first established that the fetus responded to the stimulus of a loud noise but evidenced no response to a second stimulus, a vibrator placed on the mother's abdomen. Then the stimuli were "paired" or presented together. After a number of paired presentations, the vibrator alone produced a response very much like that originally elicited by the loud noise. The response had become attached to a new stimulus.

Classical conditioning is called "classical" because it is the kind of learning which was first studied systematically, not by a psychologist, but by a Russian physiologist named Ivan Pavlov. Pavlov was engaged in a study of digestive processes in animals, but he became intrigued by the observation that instead of salivating only after food was placed in their mouths, the animals frequently salivated before the food reached them, sometimes at the very sight of the attendant who usually placed the food. Pavlov spent the rest of his life studying the phenomenon and subsequent generations of psychologists have followed his lead.

Using one of Pavlov's famous dogs as the subject, let us identify the elements of a classical conditioning process. When meat powder is placed in the dog's mouth, he will salivate. The meat powder is termed the *unconditioned stimulus;* the salivation is termed the *unconditioned response.* A bit of meat powder will produce salivation. Another bit of meat powder will produce salivation. The response is quite dependable and automatic.

The next step is to test a neutral stimulus—a bell, for example. Whatever response the animal may give, it is not dependable. Perhaps he pricks up his ears. Perhaps not. Perhaps he flicks his tail. Perhaps not. He may show no response whatever.

Now the two stimuli are presented together, the bell always accompanied by a bit of meat powder. After a number of repetitions of this procedure, the bell is sounded alone. The dog will salivate. Ring the bell again, and he will salivate again. A new, relatively permanent response has become attached to a previously neutral stimulus. A change in behavior has come about as the result of a situation (the paired stimulation). As in the case of fetal learning, it can be diagramed thus:

	Testing Procedure	
Stimulus		*Response*
Meat powder		Salivation
Bell		No dependable response
	Paired Presentation	
Bell plus meat powder		Salivation
Bell plus meat powder		Salivation
Bell plus meat powder		Salivation
	Test for Conditioning	
Bell		Salivation

The bell, the previously neutral stimulus, is now a *conditioned stimulus* and the new response to the bell is called the *conditioned response.*

Because the terminology is unfamiliar, classical conditioning often seems difficult for the beginning student to comprehend. Think about it this way. In the usual order of events (neutral stimulus, followed almost immediately by the unconditioned stimulus, followed by the unconditioned response) the neutral stimulus becomes a kind of "signal" that the unconditioned stimulus is about to appear. The bell serves as a signal for the forthcoming meat powder and soon the animal *associates* the sound with the usual sequence of events and responds to that sound in *anticipation* of meat powder.

The utility of such a response is obvious. Baby is crawling around the room and puts his hand on the hot radiator. The next time he is on the floor he is likely to give the radiator a wide berth. Now the *sight* of the radiator (a previously neutral stimulus) is the conditioned stimulus which evokes a conditioned response (fear). The fear was originally aroused as an unconditioned response to the unconditioned stimulus (the burn). The farmer shouts "whoa" and pulls on his horse's mouth. Old Dobbin will eventually respond to the sound of the farmer's command. It is likely that some of our own early language learning occurs in the same way. Mother says "no!" and spanks baby's hand. Soon she need only say "no." Your nurse's uniform may serve as a conditioned stimulus, perhaps associated in the mind of a small child with "shots," or more happily in the mind of another patient with care and attention.

Classical conditioning is important, not because it is the whole story of learning, but because the certain regularities and lawfulness of the relations between stimuli and responses provide some principles for the learning process. We must look at some of these principles briefly before moving on to other forms of learning.

The principle of reinforcement. Pavlov's dog would not have learned to salivate at the sound of a bell if the bell had never been associated with meat powder. In order to learn, the organism must "get something." What he "gets" (in this case, the meat powder) is termed *reinforcement*. Reinforcement is not always tangible. On the contrary, it may be only a smile or the avoidance of a frown or some small inner sense of accomplishment. But tangible or intangible, reinforcement *must have some significance for the organism*. The child will not learn to read if neither books nor a good mark nor the teacher's approval have any importance in his life.

Furthermore, the quality or degree of learning is affected by the amount of reinforcement. When the bell and the meat powder are presented together regularly, the conditioned response will appear with greater strength and greater dependability as the paired stimulation is repeated.

For efficient learning, reinforcement should also be closely associated in time with the stimulus response to be learned. Classical conditioning seems to be achieved most rapidly when the unconditioned stimulus (which can be termed the *reinforcing stimulus*) follows the stimulus to be conditioned by only half a second. If we waited ten minutes to reinforce the bell, learning would be slow indeed! If you would teach puppy not to puddle on the floor, you must catch him in the act or immediately after. Don't wait until papa comes home to punish him for the mishap.

A partially reinforced response is extremely resistant to extinction.

The principle of extinction. A corollary of the principle of reinforcement is the principle of *extinction*. A response which is not reinforced will eventually disappear. If the bell rings over and over when no meat powder is forthcoming, Pavlov's dog will finally disregard the sound. If no one ever gives Fido a scrap of food when he is pestering the family around the table, the nuisance behavior will cease.

Spontaneous recovery. A somewhat puzzling phenomenon connected with extinction is *spontaneous recovery*. After the bell has sounded many times without presentation of meat powder, the dog seems, for all intents and purposes, to be wholly ignoring the bell. But if after a rest period, perhaps overnight, the bell is sounded again, salivation is likely to recur. The conditioned response, once extinguished, has spontaneously recovered. We don't know why this happens, though it has been suggested that perhaps learned behavior is never completely erased but leaves some sort of nervous system "trace." The recovered response will extinguish rapidly if not reinforced, though it may reappear again after another period of rest.

Partial reinforcement. Another phenomenon connected with extinction is that some responses seem almost impossible to extinguish. These are responses which have been conditioned in the usual way, by regular reinforcement. After the reponse has been learned, however, the reinforcement is presented only once in a while. This is termed *partial reinforcement*. For some reason not yet understood, a partially reinforced response is extremely resistant to extinction. If Fido gains a tidbit of food even infrequently, he will persist in hanging around the dinner table.

Stimulus generalization. In addition to the principle of reinforcement and the principle of extinction, conditioned responses are also subject to *stimulus generalization*. Pavlov found, early in his investigations, that a dog conditioned to respond to a bell might also respond to another sound: a bell of a different tone or even a buzzer. That it may be a kind of "confusion" of stimuli is shown by the fact that stimulus generalization tends to occur more readily early in the training, that it occurs more readily if the stimuli are somewhat similar (such as two auditory stimuli or two visual stimuli) and that if the subjects are humans, it occurs more readily among younger children who presumably do not discriminate very well. Stimulus generalization might account for the delighted response of "kitty, kitty!" to the sight of a squirrel, a dog, or even a cow from a child who has learned the term for the small four-legged animal.

Discrimination. "No," replies mother. "That's not a kitty. That's a dog." And the process of training for *discrimination* has begun. Mama or the investigator in the laboratory will promote discrimination, by reinforcing the "correct" response and not reinforcing the undesired response.

Classical conditioning can serve as one model for learning. A response, formerly elicited by one stimulus, becomes attached to an associated stimulus. It probably accounts for much of our early learning, especially before we acquire the ability to discriminate between stimuli. Baby is lying peacefully in his darkened room. Suddenly he is frightened by a loud noise in the vicinity. Thereafter he responds with fright whenever the room is darkened. It may be that a number of our early fears (and loves) can be explained on the basis of simple association. However, human learning cannot be fully accounted for by classical conditioning, important though its principles are.

If you wanted to toilet train small Tommy, a classical conditioning situation would not be of much help. Somehow or other you must get him to perform the required act in the proper place and then reinforce with praise and approval. The term for this sequence of events is *instrumental* conditioning. It provides another "model" for learning. Let us take a look.

Instrumental Conditioning

This form of learning occurs when one of many possible responses is selected by means of reinforcement and thereafter comes to be attached to a particular stimulus. If you would have Rex learn to "play dead," you must in one way or another cause him to lie down motionless and quickly slip him a dog biscuit. After some patient effort on your part, Rex will learn that the dog biscuit comes with lying down, not with jumping around, barking or chasing his tail.

In the laboratory, instrumental conditioning is frequently demon-

Instrumental conditioning is a trial and error form of learning.

strated by means of a "Skinner box," named after its designer, B. F. Skinner. It is a box which is empty except for a small bar, which when depressed releases a pellet of food into a food cup below. A rat is placed in the box. He moves about restlessly, sniffing corners, exploring, occasionally standing on his hind legs with forepaws on the wall. In the course of this activity, he is likely to rest his forepaws on the bar. The bar is depressed and a pellet of food drops out. He discovers the food and eats it. Then there will be more sniffing around and finally another chance pressing of the bar, another food pellet and eating. He will probably need a number of "accidental" presses before he learns the response which brings the food.

What has happened here is different from what happens in classical conditioning. In both instances the learned response is "stamped in" by means of reinforcement. In classical conditioning the subject is essentially passive. He simply "notices" and associates the two stimuli. In instrumental conditioning, however, the subject must sooner or later produce the desired response in order to learn at all. It is his response which is *instrumental* in obtaining the reinforcement and therefore promoting the learning.

Instrumental conditioning can be viewed as a kind of trial and error form of learning. Faced with an unfamiliar television set, you pull and push this knob and that. Finally something works, the picture comes on (reinforcement) and next time you can probably repeat the successful operation immediately.

The principles of reinforcement, extinction, generalization and discrimination which we noted for classical conditioning are applicable to instrumental conditioning also. The student nurse may well find that a number of her previously reinforced habits are no longer suitable to her new life as roommate, member of a close little group of students and candidate for a responsible profession. Perhaps mama regularly picked up your clothes and cleaned your room, but the habit of leaving the room a shambles will not be reinforced by an irate roommate. Look back on your earliest days in training. You can probably remember a good deal of fumbling around, trying this and that, before all members of the class settled into arriving for class or duty promptly, shouldering an equitable share of the work and living together harmoniously. Old responses had to be extinguished and new ones acquired and extended by means of reinforcement, generalization and discrimination. Spontaneous recovery of old responses may occur also, especially if one returns to the setting of stimuli under which they were learned. Go home for vacation and, as far as the condition of your room is concerned, mother may not know that any change has taken place at all.

The two kinds of conditioning have been so thoroughly studied that there is an exhaustive literature regarding almost every aspect of the process. Although some psychologists feel that the various principles can account for even the most complex forms of human learning, other psychologists suggest that conditioning is too "automatic" to serve as an adequate model for the kind of learning which involves understanding, insight, knowledge and perception. This type of learning, while it can be demonstrated in animals, is accomplished in its most intricate form by human beings. It is sometimes termed *perceptual learning*.

Perceptual Learning

In addition to stimulus-response sequences which, with reinforcement and repetition, become *habits*, we also learn complex skills involving coordination of muscle movement.

Now the problem of accounting for what happens as one, after many mishaps, acquires the ability to guide a two wheel bike or to use sterile forceps with easy dexterity becomes much more difficult. It is apparent that a series of adjustive responses takes place, at first typically awkward and unorganized, then gradually becoming smooth and efficient. While it may be argued that this is really our old friend, instrumental conditioning, operating through reinforcement of correct responses, some psychologists emphasize the importance of perceptual processes in the learning. The beginner must continually remind himself of the necessary sequence of events, counting out the dance steps or mentally checking the position of feet, body, head and shoulders before swinging the golf club. Remember the days of being "all thumbs" in the procedure of making a hospital bed, of having to think through the exact way of holding and placing the sheets? An example of a highly polished *sensorimotor* performance, involving fine coordination and sure movement together with knowledge, understanding, reasoning and decision-making is the skilled surgeon at work. Such integration of motor proficiency and expert perceptual control seems to represent an entire battery of habits, together with the further capacity to adjust to the demands of the immediate situation.

In addition to complex motor skills in which the learning is chiefly that of smooth muscular coordination, and sensorimotor skills in which motor skills and perceptual processes work together, we also engage in that kind of learning in which cognition, understanding, reasoning and problem solving seem to dominate. We learn to think about ourselves and the world, to examine abstract ideas, to create and invent and to secure information. Again, it seems possible that future research will establish that more is involved than the association of response to stimulus. However, while we cannot yet fully explain how perceptual learning comes about, we do know a good deal about conditions which promote such learning. This information has relevance for both student and teacher.

Management of Learning

In laboratory animals we can arrange the significance of the reinforcement by making sure that the animal is good and hungry before being placed in the Skinner box. Unfortunately, it is not always so simple for human beings. As parents and teachers, however, some of our effectiveness depends upon our skill in handling reinforcement.

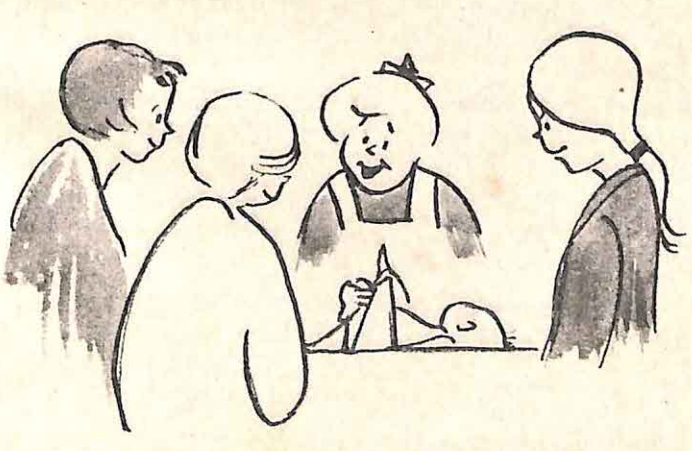
Parents and teachers use rewards and punishment: a good mark, a frown, a "well done," a star on a chart, a spank on the bottom. Many rewards are *extrinsic* to the learning situation. This means that there is no real relationship to the task at hand. Papa promises John a car for graduation if all his marks are above average. An extrinsic reward is really a kind of bribe, and can bring about some undesirable by-products. It shifts the emphasis from the satisfaction of accomplishing the learning to something quite external to the situation. In effect, it tells the learner that the task is probably so unpleasant that it would not be done without extra incentive.

In contrast, an *intrinsic* reward is natural to the situation. No one has to bribe Tommy to learn to ride his new Christmas bike. If John has saved his money for a year to buy a short wave radio kit, it is unlikely that he will need any outside inducement to push him toward learning how to assemble it. It is much more difficult for parents and teachers to make use of intrinsic rewards than of extrinsic ones, of course. Many of the learning tasks we impose upon children and students must seem to them to be wholly arbitrary. Though parents and teachers may need to use extrinsic rewards, if they also work to help the learner see the need to learn, to help him to take an active part in searching for information, the battle will be half won. A skillful teacher will attempt to build interest in the material. The student nurse who teaches a class in child care to new mothers in a desultory, part-of-my-duty fashion is not likely to encourage learning. But the nurse who is convinced that what she has to teach may help the mothers over a lot of anxious moments and that perhaps she can help them relax and enjoy their small offspring will impart some of her own enthusiasm to give intrinsic value to the learning.

Allied with reward is the use of punishment. Punishment is ordinarily employed to stop undesirable responses or to prevent their recurrence. We banish the child to his room, swat the dog with a folded newspaper, take away the week's allowance, deny use of the television set, send to the principal, impose fines and jail sentences. Punishment is so firmly imbedded in our management of the learning process that we rarely question its effectiveness.

Research evidence suggests that punishment is not only less advantageous than reward in learning, but may produce some unsuspected side effects. Punishment may, indeed, succeed in halting undesirable behavior, but the ensuing fear and resentment can so fog the issue that what is learned is quite unpredictable. Though we think we have taught the child to stop taking cookies from the cookie jar, he might actually have learned to be more cunning about not getting caught. As a matter of fact, punishment can even become rewarding. For some children it serves as the road to obtaining attention. They literally "ask for it." It is not really the kind of attention they crave, but it is better than nothing. Punishment in the form of poor marks or being told that one has done very badly may be so discouraging to the learner that the effects spread to other learning tasks. Punishment which is long delayed ("I am going to tell daddy when he gets home") or which is continually threatened but never forthcoming, is not likely to stop the undesirable behavior at all.

However, it is probably inevitable that parents and teachers will use punishment in learning situations. Perhaps we can formulate some rules for its use. First, punishment should be informative. It should clearly indicate to the learner what was wrong and what might be done to correct it. When a paper merits a poor grade, the teacher can review the errors



The nurse's attitude can add intrinsic value to any health teaching.

with the student and help him to correct his mistakes. If the child seems to be "testing the limits" to see how much unpermitted behavior is going to be tolerated, the consequences should be firm, prompt and consistent. Second, punishment should be combined with reward whenever possible. When you have to call a maid to account for a sloppy job of cleaning the service room, it may be possible to compliment her at the same time for another task which was well done. Third, punishment for very young children should be used with great care and thought. The ability of the young child to discriminate is so limited that what he learns from punishment may be quite different from what the parent intends.

Intelligent use of reward and punishment by parents and teachers can assist learning. What of measures the learner can take to help himself?

From the research literature there also emerges practical information which the learner can put to use. Some of this has been discussed informally in the beginning of this text in the introductory note to the student. That section may "make more sense" after this brief summary of the research findings.

Economy in learning seems to depend in large measure upon the task at hand. The acquisition of a sensorimotor skill is a process in which separate responses become connected into sequences and patterns. The typical learner shows fairly rapid improvement during the first practice periods, followed by a slowing down of the rate of improvement. This discouraging time, in which practice seems to bring little or no gain, is called a *plateau*. If the learner does not give up but continues to practice, it almost always gives way to another period of increasing skill. Apparently new organizations of responses take place during what seems to be futile effort, and they later result in a new level of proficiency. Eventually, however, after successive plateaus and improvement periods, the skill increases no further. The *physiological limit* has been reached. Each learner has his own particular physiological limit, different from that of another learner, but eventually each has to face the built-in limitations of his nervous and muscular equipment.

Spaced vs. massed practice. For sensorimotor skills, distributed practice is better than massed practice. That is, the practice periods should be spaced and regular rather than long. This rule does not seem to hold, however, for the kind of learning that involves memorization, inductive thinking or problem solving. Here more efficient use of the learner's time is made if he will "stick with it" over a longer interval.

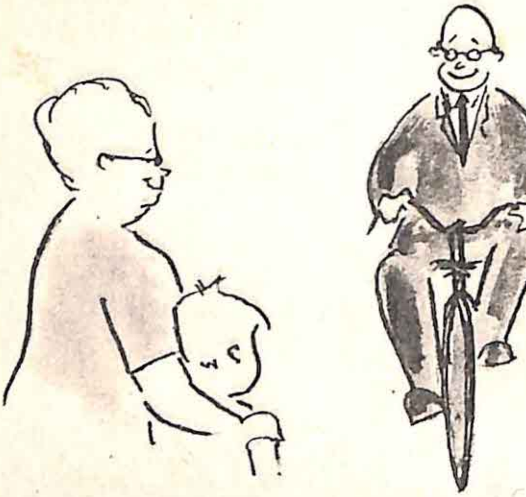
Whole vs. part learning. The problem of whether to learn a skill or textbook material by tackling it in its entirety or by breaking it up into parts is a puzzling one. An enormous amount of research into which approach is better has not produced a clear answer. For the kind of learning required by college course work, a combination of the methods seems to offer best results. The task should be gone over as a whole at first to take advantage of continuity and meaningfulness—to "get the big picture"—and also to become aware of the more difficult sections. Then comes concentration on the troublesome areas, followed by the whole task in review.

Importance of knowledge of results. While it may seem to be citing the obvious to state that research evidence clearly shows the importance of knowledge of results (or "feedback") to the learner, many students fail to apply this principle. They wait until test time to find out how they are doing. If the animal in the Skinner box has to wait ten minutes before the pellet arrives, he will probably never learn to press the lever. The most effective "feedback," which is of course a kind of reinforcement, occurs immediately after the learning.

An entire technology involving "programmed courses" and "teaching machines" is being developed around knowledge of the importance of immediate feedback in facilitating the learning process. The essence of either programmed instruction or a teaching machine is that new information is presented in a sequence of steps, each step ending with a question or item which the student must finish correctly before proceeding to the next bit of information. Thus the student is continuously aware of his progress or errors. If he has missed a point or misinterpreted the information, he finds out about it at once. Students who carefully test themselves at the end of each learning session can accomplish the same end. Teachers, too, can make practical use of this principle by testing frequently and providing immediate knowledge of results.

Forgetting. The problem of forgetting, while peripheral to the learning process, is nevertheless of concern to the student. Having learned a list of maximum permissible drug dosages backward and forward is no guarantee that we will still be able to recite the list a year from now. Here, too, the research findings suggest factors that can be controlled by the learner.

There is a good deal of evidence that the activity which follows learning has an effect on forgetting. If one learning session is followed by a learning session with different material, the new learning is likely to interfere with retention of the old. The effect is most pronounced if the second learning bears some similarity to the original. The effect works in both directions. That is, the original learning will also interfere, though apparently to a lesser extent, with remembering the new material. On the other hand, if learning is followed directly by sleep, the amount of forgetting seems to be lessened. The "moral" of such findings is that if you must study several subjects in the course of an evening, it would be best to arrange the sequence of subjects so that each one is as dissimilar as possible from that which preceded it. If you have an examination the next day, it would be wisest to study that particular material immediately before going to bed.



Overlearning can apply to studies as well as to childhood skills.

Importance of review. We are sometimes astonished to discover that we have forgotten very little of some of the skills we learned in childhood. Even after years have passed without practice we can hop on a bike and ride off, or faultlessly enter the center of a swinging jump rope. One explanation for this is that these skills were *overlearned*; they were repeated and practiced far beyond the point of mastery. It is possible to overlearn course material, also. It can be managed through a system of regular review. Testing oneself immediately after studying serves as the first review. Thereafter the material should be gone over again, from time to time, with emphasis upon the most important aspects or upon those parts which are most difficult. The learning will become more stable the longer it is maintained and will require less and less review. Faithful adherence to a schedule of review would make it really possible to face examination week with confidence!

Summary

1. In classical conditioning, a neutral stimulus is paired with another stimulus (the unconditioned stimulus) which elicits a dependable response (the unconditioned response). The subject learns to make the same response (conditioned response) to the previously neutral stimulus, now termed the conditioned stimulus.

2. In classical conditioning, the unconditioned stimulus serves as the reinforcement of the learning process. Reinforcement is what the subject receives—sometimes tangible, sometimes intangible. Examples of reinforcement are food, approval, and avoidance of pain or discomfort. In any

case the reinforcement must have significance for the organism, and should be closely associated in time with the response to be learned.

3. If reinforcement is withheld after learning has taken place, the conditioned response will gradually cease. This is termed extinction.

4. After a conditioned response has been extinguished, it may suddenly reappear after a period of rest. This is known as spontaneous recovery. If not reinforced, the recovered response will extinguish rapidly.

5. Conditioned responses that are only irregularly or occasionally reinforced seem to be extremely resistant to extinction.

6. Stimulus generalization refers to the "spreading" of a conditioned response to a stimulus other than the conditioned stimulus. Usually the stimuli are somewhat similar and the phenomenon tends to occur more readily early in the training.

7. If stimulus generalization has taken place, the subject can learn to discriminate if only the desired stimulus is reinforced. Responses to extraneous stimuli will then drop out.

8. Instrumental conditioning differs from classical conditioning in that the subject must produce the response to have it reinforced and hence to learn. By means of a process which looks like trial and error, the subject learns that a particular response is instrumental in bringing satisfaction or avoiding discomfort.

9. Reinforcement, extinction, spontaneous recovery, stimulus generalization and discrimination also characterize instrumental conditioning.

10. Perceptual learning is the term given to the kinds of learning in which complex skills involving cognition, understanding, reasoning and decision making are acquired. Future research will have to establish whether conditioning is adequate as a model for this or whether new models must be invented.

11. Parents and teachers use reward and punishment to reinforce learning. An extrinsic reward has no natural connection with the learning situation. It serves less well than an intrinsic reward whose value is closely connected with the learning itself.

12. Punishment is less effective than reward in promoting learning. When it is used, the parent or teacher should try to make it informative. Punishment should indicate not only what was wrong, but what is necessary to correct the errors. It is best used in combination with reward whenever possible; the reward may then reinforce desirable responses. It should not be used without thoughtful consideration for very young children. It should never be long delayed or merely threatened.

13. The learner who is attempting to acquire a sensorimotor skill must expect plateaus in the learning process, during which practice seems to produce no improvement. If practice is continued, further improvement will take place up to a level called the physiological limit, which is the genetic limitation of one's neuromuscular and skeletal systems.

14. Practice sessions for sensorimotor skills seem most efficient if distributed over periods of time. Other kinds of learning, however, involving complex perceptual processes, seem to benefit from some degree of massed practice; the learner does better to stay with the task over a longer interval.

15. A combination of whole and part learning seems to work best for the subject material of most college courses. The task should be approached first as a whole. Later it is broken down into parts and study concentrated on the difficult areas. Finally, it should be gone over as a whole again.

16. Self-recitation or testing oneself on the material learned provides reinforcement in the form of knowledge of the results of the learning.

17. The amount of forgetting is least if no activity (sleep) intervenes between learning and recall. Forgetting is greatest if new and similar material is learned after the original learning.

18. Forgetting can be decreased by overlearning. This means practice well beyond the point of bare mastery. College course material demands regular review to promote overlearning.

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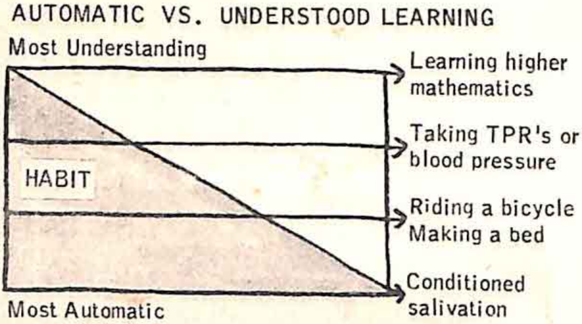
Chapter 7 LEARNING AND INDIVIDUAL DIFFERENCES

Psychologists are still hard at work to discover how we learn. In the last chapter we studied some of the models of learning—the acquisition of responses by association of stimuli which is called classical conditioning, and the acquisition of responses by a kind of trial and error through which one response comes to be preferred because it brings about reinforcement, which is called instrumental conditioning. We looked at the regularities which obtain in the relationships between stimulus and response, the principles of reinforcement, extinction, generalization and discrimination. We saw, too, that less is known about the kinds of learning involving higher mental processes by which we acquire complex sensorimotor skills, the ability to solve problems, to understand, to invent and create.

Leaving the question of *how we learn* open for future research, we can, perhaps, provisionally accept the notion of learning on a kind of graded scale, ranging from simple, semiautomatic responses, through responses that demand more perception, to the kind of learning that calls for complex understanding, insight and cognition. Such a scale is diagrammed in the accompanying illustration.[1]

When we tackle the question of *what* we learn, it becomes apparent that we are confronting the incredibly vast array of individual differences. What we learn, of course, depends upon our own particular inherited potential—our capacity for learning and the various sensitivities of the sensory apparatus through which we perceive stimuli—and also our level of maturation at the time. What we learn also depends upon environmental circumstances. In this chapter we will focus particularly upon the learning which promotes individual differences.


AUTOMATIC VS. UNDERSTOOD LEARNING
Most Understanding
HABIT
Most Automatic
Learning higher mathematics
Taking TPR's or blood pressure
Riding a bicycle
Making a bed
Conditioned salivation

Automatic vs. Understood Learning. (Adapted from E. R. Hilgard: Introduction to Psychology, 3rd edition. New York, Harcourt, Brace & World, 1962.)

Cultural Learning

Some of the most pervasive learning of our lives takes place without awareness. As a matter of fact, what we have learned in this fashion is so much a part of the warp and woof of our lives that we rarely, if ever, think of it as having been learned. It has just "always been there." We simply take it for granted. The complex of behavior patterns and attitudes and orientations so learned constitute the "of courses" of our existence.

Let us do a bit of *role playing* to illustrate. Role playing calls for putting one's self into a described situation and attempting to feel what one would feel if the situation were real. It is akin to the childhood game of "let's pretend."

In this situation, you are a young married woman giving a dinner party for your husband's boss and his wife. It is an important occasion and you are anxious for everything to go well. The dinner has been carefully planned, the children are tucked into bed, the house is tranquil and the guests have arrived. You are all in the living room, conversing, when there is a small giggle on the stairs. Your preschool daughter, whom you thought to be sound asleep, has decided to join the party and has dressed herself for the occasion in her little ballet costume. How do you feel about it?

Most of us, although we might be momentarily annoyed with the small intruder, probably wouldn't get too excited. She'd be permitted to greet the guests, do a few pirouettes and then be hustled back upstairs.

Now, let us do it again. Same situation—important dinner party, everything going well. But this time pretend that it is your small preschool son who appears, dressed in his sister's ballet costume. The quick inner gulp with which most of us contemplate such an incident hints that we have touched upon an "of course."

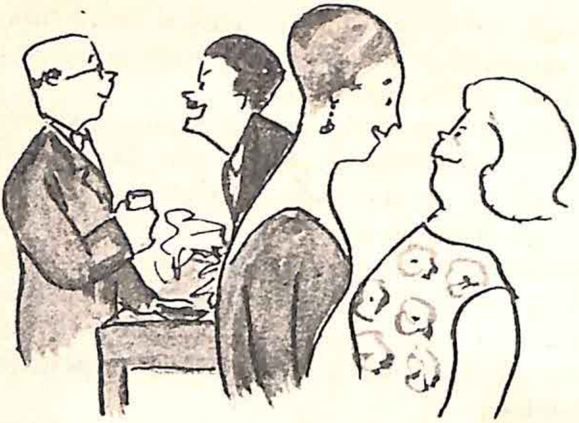
Though these are not often examined, most of us have some deep feelings about proper behavior for little boys, even very little boys.

Strangely enough, we are much more relaxed about little girls. If small daughter had appeared in her brother's cowboy suit or even in his jeans, it would not have caused such dismay.

The chief characteristic of the kind of learning we are calling the "of courses" is that it is so difficult to envision any other way. We learn many "of courses" when we are very young. They become woven into the very fabric of our lives. They are almost as much a part of us as the air we breathe. Of course boys do not walk down the street holding hands. Of course you line up and wait your turn at the ticket counter. Of course you do not arrive an hour and a half after the appointed time for a dinner party. Of course you don't walk across the room to speak to a friend when the teacher is talking.

By precept and admonition, by tone of voice and lifted eyebrow, by example and by rule, thousands of small details are taught to the young in such a fashion that any other pattern of behavior is quite unthinkable. You will pass the "of courses" of your existence on to your children as your parents passed theirs on to you. Some of these are much more subtle than the simple ones we have cited. We have, for example, an entire complex of attitudes attached to the question of how much distance should be maintained between two people who are talking together. Sounds silly? Try it. Fix your chair in relation to that of someone else, so that you could have a casual conversation about everyday matters. Notice that you do this by the "feel" of it. If you have been reared in the United States, you carry on conversation about ordinary topics at a distance of between 4 and 5 feet. (Think of the grouping of chairs for conversation at a party for, say, six people.) Now, try moving your chair to the position you would take if you were going to speak of something of a personal nature. Suddenly the original distance seems too great. There is some vague feeling about being overheard. But even if there were no one else in sight, the distance would still seem too great. To discuss personal affairs we "feel" that we have to move closer. However, if you were to move within a foot of the other person, depend upon it, he would back away. For us, there is a rather definite limit to how close we will permit another person to approach. For us, a distance of a foot has connotations of intimacy.

Allied with the facts that we take the "of courses" for granted and that any other kind of behavior seems out of the question are the feelings which are aroused when an "of course" is violated. Think of how you would feel if you came home and discovered your roommate sleeping in your bed. That upset feeling means that one of your "of courses" has been breached. (Because "my place" is an important "of course" in our culture!) The surge of indignation if someone pushes ahead in line or if the waiter attends a newcomer first, the irritation if someone keeps us waiting for an



Our "of courses" may differ from those in other cultures.

appointment beyond a "proper" limit, the nervous embarrassment at seeing a grown man weep, all attest to the arousal of deep feelings which we are hard put to explain.

Since most of us share the "of courses" of our own culture, the occasions for arousal of such strong feelings are relatively infrequent. Your roommate wouldn't dream of sleeping in your bed! However, it is a rapidly shrinking world. Your profession or your marriage may very well take you to the far reaches of it. And our own land is serving as host to people from every part of the globe. Therefore, it is extremely important to understand that our own "of courses" are not necessarily the "of courses" of other people.

A typical example offered by Edward T. Hall, from whom we have borrowed heavily for this section, is the distance we find comfortable for conversation.[2] A Latin American does not feel easy in conversation unless the distance between him and his partner is near to that which evokes withdrawal or hostility in us. Hall remarks that he has often been amused by the sight of a Latin American and a "Norteamericano" literally moving the full length of a hall as the Latin American tries to close the distance and the person from the United States backs away, each trying to maintain a distance which is comfortable for him, and neither having the faintest idea that they are acting out their own "of courses." The Latin American will have some feeling that the other is cold and hostile while the "Norteamericano" will be feeling that Latin Americans are "pushy" or given to "breathing in one's face."

There is some growing awareness that the notion of time is treated differently by different peoples. Again, using a Latin American example, it is becoming customary in Latin America when inviting North American friends to dinner to specify whether the hour is "gringo" time or Latin American time. Gringo time means, of course, that you will arrive within 30 minutes or less of the appointed hour. But if you have been invited to dinner in a Latin American household, you simply *plan* to be from an hour and a half to two hours "late."

In Iran a man demonstrates that he is a true man, full of vitality and life, by outbursts of emotion, weeping and temper. He is expected to read and be moved by poetry, to have deep feelings for people, including his male friends with whom he often holds hands or embraces. On the other hand, a woman is considered inherently given to cold intellect and expected to be hard and practical in business affairs.

It becomes plain that our own ways are "best" in our minds because they have been so thoroughly learned. However, to become aware of one's own "of courses" is a little like taking off blinders. It opens up the world, removes constrictions. The Peace Corps has a colorful slangy phrase which expresses the necessity for taking the long view of these kinds of cultural differences. Peace Corps volunteers must learn to "hang loose." A volunteer who is bound by his own "of courses" will do more harm than good in another land. Today's nurses could also admonish themselves to "hang loose." Whether they work at home or abroad there will be countless opportunities to demonstrate understanding and acceptance of the fact that one man's "of courses" are not necessarily another's.

Testing Intelligence

That there are individual differences in intelligence is well known. Intelligence testing is such a common feature of our school systems that most of us have several scores on our school records, representing testing programs in various grades.

Perhaps the best known of the intelligence tests is the Stanford-Binet, which was the first one used in our country and which gave us the concept of the IQ (intelligence quotient). This is a method of scoring in which a *mental age* is determined by the number of correct answers. The more correct answers, the higher the mental age. The IQ is then computed by dividing the mental age achieved on the test by the chronological age of the subject. If a subject scores a mental age of 12 years on the test and his chronological age is also 12 years, the quotient of $\frac{MA}{CA}$ would be 1.00. The quotient is then multiplied by 100 to remove the decimal point. Therefore this subject's IQ would be 100. The newest version of the Stanford-Binet refines this method of computing IQ by furnishing a series of tables from which the IQ is obtained.

The Stanford-Binet is an individual test. One examiner can only test one subject at a time. Since this is impractical in a situation where large numbers of children must be tested, a number of group intelligence tests have been devised. One or another of these is most frequently given in schools. Scores on such tests have been correlated with the Stanford-Binet so that an IQ can be assigned to the subject which is more or less comparable to what he would have achieved had he taken the individual test.

After the test has been scored, the scores of individuals can be compared. Since intelligence testing has continued in the United States for a period of some forty years with thousands upon thousands of individuals having been tested, there is a large body of information on the results. It is possible to predict school success from test scores. Such predictions cannot be wholly accurate because other factors are involved in school success, but since the abilities tested are those necessary for school work the predictions are assuredly better than chance. The Armed Forces use intelligence tests for the classification of servicemen. We know, roughly, the IQ necessary for various occupations and professions. We have followed the adult careers of children who made especially high scores on intelligence tests, and thoroughly scuttled the notion that such people tend to be physically inferior or that they tend to be neurotic or that they "burn out early." The scores of girls have been compared with scores of boys. Girls tend to do better on items calling for memory, reasoning and verbal fluency, while boys will generally score higher on items dealing with spatial relationships or mechanical problems. However, there are no important differences on overall measures of intelligence.

Do Intelligence Tests Measure Intelligence?

From the beginning the creators of intelligence tests have had to wrestle with the problem of what they are testing. If you were making up a test to separate "more intelligent" from "less intelligent" members of your class, what kind of questions would you ask? You *could* ask questions of information, presuming that more intelligent people have more information. However, those with more information might have gone to better schools or had more opportunities to travel, or had easier access to libraries and books, and your test, in such a case, would be reflecting these differences rather than basic differences in intellect. You might reason that intelligent people are better at mathematics and give a test covering many different phases of mathematics. Again, objections could be raised, not only with regard to differing educational opportunities, but also as to whether ability in mathematics is an adequate measure of intelligence. Might there not be highly intelligent people who, for one reason or another, were not particularly good at math? The same objections would hold if you were to devise a test that concentrated on verbal ability.

You would probably decide that your test should contain many different kinds of items, some using words, some using symbols, some calling for reasoning and problem solving, some requiring memory, some calling for sensorimotor skills. Creators of intelligence tests have tended to follow this strategy: tests are usually composed of a battery of different kinds of questions.

Are there, then, different kinds of intelligence? Recent research indicates that there are. Using a statistical technique known as factor analysis, a psychologist named J. P. Guilford has concluded that there are some 120 distinct abilities involved in intelligence.[3]

An intellectual task, he suggests, involves specific abilities which fall into three basic categories. One category has to do with the *content* or kind of information involved in the task. Some tasks involve symbols, some involve words, some involve dealing with people. The various content abilities have to do with receiving the information. Some kinds of perfectly good information are meaningless because we lack an ability in this category. Modern art excites one individual and leaves another quite cold. A psychiatrist receives one kind of message from the temper tantrum of a child; the child's mother receives something different.

The second category of abilities interacts with the first. These are the *product* abilities which organize or classify or relate the information. Product abilities have to do with casting the information into a form in which we can deal with it. If you were given a question such as "Wet is to dry as cold is to ______," you would not only have to know the meaning of the words (content), but you would have to perceive some relation between the words. In this case, once the information is systematized into a series of opposites, the problem is almost solved.

The third group of abilities is involved in the mental *operations* performed on the information. Problems are solved or answers are searched for. Information is stored in memory. Evaluations are made. Perhaps something new is created.

Current intelligence tests, suggests Dr. Guilford, measure only a few of these abilities, but tests are being constructed which will begin to assess many more. The kinds of tests your children will take in school are likely to be very different from those you were given!

Information Processing

Dr. Guilford's model for the structure of intelligence makes clear the complex nature of intellectual processes. Because information seems to figure so largely in intellectual functioning, it is possible to think of the human organism as an *information processor* of the highest order, receiving, directing, organizing, evaluating, and making decisions in many interrelated cycles. Machines, the great complex computers, process information, too. As a matter of fact, much of the current terminology for various human intellectual functions is borrowed from the language used for computers—terms such as "input" (for stimuli) or "feedback" (involving self-correction and evaluation). However, though the machine can perform its operations faster than the human mind, it must nevertheless be programmed by a human being. The machine can do only what it is instructed to do.

We can envision the human intellect processing the kinds of information most important to its particular mode of life. Thus the young man in a primitive jungle society would hold in his memory all kinds of symbols, meanings and social precepts which are wholly unknown to us. The sounds and sights and signs to which he responds would be totally different. The mental operations with which he approaches problems, and the problems themselves, would have little resemblance to the information processing accomplished by the modern city dweller. He would assuredly fail our intelligence tests. We'd hardly pass any of the tests which count for him.

Environmental Influences

That children from impoverished environments tend to do poorly on intelligence tests has long been known. We have also known of group differences which tend to favor city children over children of rural backgrounds and children from Northern schools over children from Southern schools.

We have been inclined to attribute these differences to the high verbal content of most intelligence tests, understanding that some children have more access to books, more contact with well-spoken language and more experiences to enrich their vocabularies than others.

Only recently, however, have we begun to appreciate the crucial importance of certain experiences during the child's early years in providing him with tools for the kinds of intellectual functioning demanded by a complex, industrialized society.

Our own society demands now and will increasingly demand a special kind of information processing. The growing complexity of organization and the explosive pace of technological and social change require great numbers of educated men. To be uneducated in our society is to be virtually unemployable. Education of whatever kind demands literacy.

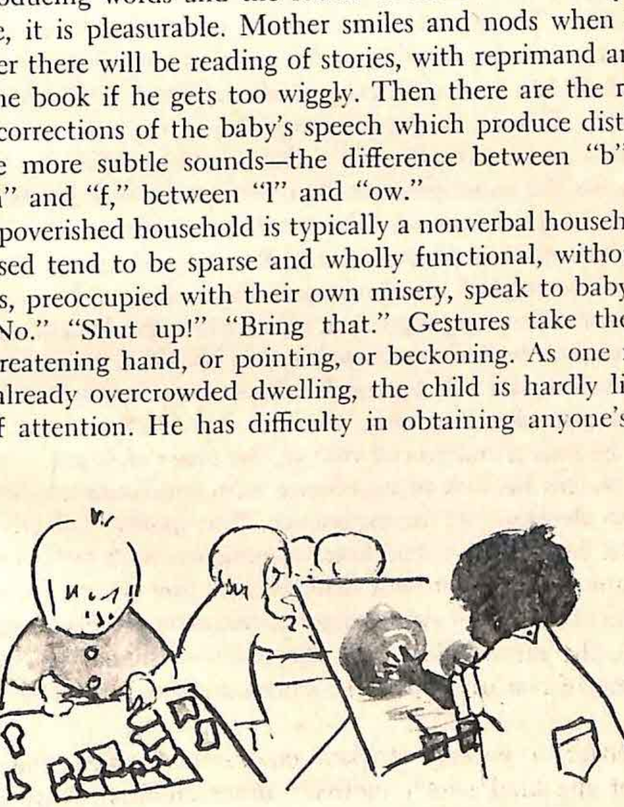
Slowly we are discovering that it is not simply lack of access to books or dearth of trips to the seashore and zoo and museums which leave many children in our society unprepared for intellectual endeavor. We are beginning to understand that there is an entire complex of experiences which the child must have before he enters school if he is ever going to learn to read at all. The experiences apparently combine to give him the essential information processing tools, without which he will founder and fail.

Some of the most important factors for the kind of information processing demanded by our society have been identified.[4] These can be illustrated most dramatically by describing the failure of an impoverished household to provide the experiences necessary for their development. Let us begin at the first grade level, the grade which commonly introduces children to the skills involved in reading.

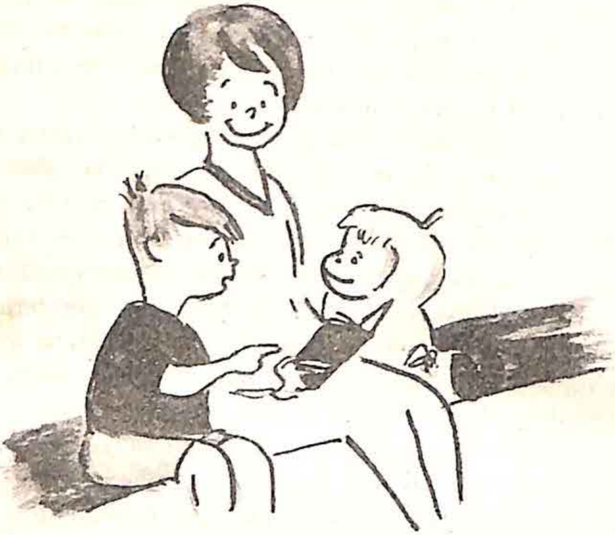
In order to learn at all in first grade, the child must have attained a certain level of *auditory discrimination*. He must be able to attend to what the teacher is saying. He must be able to understand what she is saying. And he must be able to screen out the irrelevant sounds.

In an ordinary household the experiences which combine to develop ability to attend to the spoken word are taken for granted. We tend to be highly verbal. Parents begin to speak to their children long before the children can understand what is being said. Mother recites the nursery rhyme while feeding, for example. Gradually baby begins to wait for the "punch line" anticipating the regularities; then he may supply the rhyming word at the end of each line and finally the line itself. Soon he can say the entire verse. This is no empty exercise, though it is likely to take place well before the words themselves hold meaning. Baby is getting practice in attending, in the ways that words go together, in the sound of voices producing words and the sound of his own voice saying words. Furthermore, it is pleasurable. Mother smiles and nods when he does it "right." Later there will be reading of stories, with reprimand and perhaps closing of the book if he gets too wiggly. Then there are the regular and continuous corrections of the baby's speech which produce distinctions in some of the more subtle sounds—the difference between "b" and "p," between "th" and "f," between "l" and "ow."

The impoverished household is typically a nonverbal household. What words are used tend to be sparse and wholly functional, without elaboration. Parents, preoccupied with their own misery, speak to baby in monosyllables—"No." "Shut up!" "Bring that." Gestures take the place of words—a threatening hand, or pointing, or beckoning. As one more addition to an already overcrowded dwelling, the child is hardly likely to be the focus of attention. He has difficulty in obtaining anyone's sustained



Play helps a child learn to "process information."



Before school age, children must learn auditory discrimination.

attention and therefore little opportunity to practice attending for any period of time. The general noise level in a crowded tenement or Appalachian shack, with ten to 12 people crowded into one room, is so high that the child has to learn how *not* to hear and develops the ability to shut himself off from his surroundings.

In consequence, when such a child enters school for the first time, he is in quite the same position that you would find yourself if suddenly transported to another land. The teacher introduces herself to the class and describes what a pleasant time they are all going to have in first grade. For the typical disadvantaged child she might just as well be speaking in another language. It is likely to be the longest sustained communication that he has ever heard in his life. If a truck rumbles by or a jet flies overhead, he will have difficulty in even selecting the voice of the teacher for attention. For him, it will be just one big noise. His attention span will be only a fraction of that of the other children.

Add to this his lack of experience with fundamental mental processes which also develop out of experience. The poverty of his environment means that he will have had scant experience with sizes and shapes and textures and colors. Not only will he lack the words; he will not have formed the concepts for comparing or contrasting or classifying or relating. Therefore, the information from the world of school will be to him the same welter of confusion that the information of a trackless jungle would be to us.

Moreover, a poverty stricken environment offers the children few rewards of the kind which motivate other children. Most children earn parental approval for tasks well done—for drawing a nice picture, for asking questions, for learning to ride the tricycle, for following directions, for building a sand castle—always with the emphasis upon small successes. What parental approval, if any, the disadvantaged child gains may come for staying out of the way and not bothering the adults. Since school systems (and intelligence tests) are predicated on the notion that the child will "want to do well," it is not hard to understand why the child from an impoverished environment is apt to score so low on the standard intelligence tests and to slip farther and farther behind in school.

Can the effects of an impoverished environment be reversed? There is no answer to that question yet. Some psychologists believe that the preschool years may be a kind of "critical period" for development of the kind of intellectual functioning demanded by our society. Dr. Benjamin Bloom, for example, suggests that half of the basic mental processes are set by age four.[5] Others are not so pessimistic. All agree, however, that the younger the age at which a child can be introduced to the various kinds of perceptual stimulation, the better his chances of success in school later on. The various "head start" programs which begin at the preschool level are a bow in this direction. Israel is facing the same problem with her oriental Jews. In Israel, the program for enriching the child's environment begins at the prenatal level. Parents are visited and taught how to play with children and a set of toys is loaned to the family for the child's first few years. Israel is also building nursery schools in which such children begin at the age of three.

The entire question of what kinds of stimulation a child needs early in life in order to develop the intellectual competence to cope with modern society is just beginning to be studied. It has forced us to take a new look at our older concepts of intelligence, particularly with regard to the meaning of an intelligence test score. It has not negated the importance of hereditary potential in the eventual outcome. But it has also brought about some new understanding of the importance of environment in promoting the basic competencies upon which later successes are built.

Summary

1. Some of the most subtle of individual differences are the "of courses" which we learn from our environment. These ways of feeling and behaving are so deeply rooted in our lives that any other way is almost unthinkable. Early in life we learn proper behavior for boys and proper behavior for girls, we learn to line up and to take turns, and we learn concepts of time and space and the distance to be maintained for various kinds of communication.

The "of courses" of one environment differ from those of another. The differences are particularly great from one culture to another. Much misunderstanding can be avoided if we become aware of our own "of courses" and the feelings which are aroused when they are violated.

2. The widespread use of intelligence testing has promoted awareness of differences in intellectual functioning. Intelligence tests can be individual (such as the Stanford-Binet) or devised to be administered to groups (such as those given to most school children).

3. The concept of the IQ (intelligence quotient) derives from the original method of scoring the Stanford-Binet which assigned a mental age according to the number of correct answers. The mental age divided by the chronological age of the subject yields the intelligence quotient, which is then multiplied by 100 to remove the decimal.

4. Because intelligence tests tend to measure abilities that are necessary for school work, they are useful for predicting school success. Other factors, such as motivation, are also involved in school success, however, so predictions derived from intelligence test scores are not always accurate.

5. The concept of the structure of intelligence derived from factor analysis suggests the possibility of 120 distinct abilities involved in intellectual functioning. The basic categories of abilities are those which deal with the content of information, those which are termed product abilities, and those which are involved with the mental operations performed with the information. We begin to understand the human organism as an information processor of the highest order, borrowing many descriptive terms from the language used for computers.

6. Without discounting the role of heredity, it is possible to suggest that many individual differences in ability to process information stem from early environmental influences. We are becoming especially aware that an impoverished environment is not likely to provide the variety of perceptual stimulation by which the child acquires the experiences which underlie the ability to learn to read later on. Whether early childhood is a "critical period" for development of this ability or whether it is possible to remedy the deficit in later years has not been determined.

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Chapter 8 AGES AND STAGES

We have been concerned in this section of your textbook with human development. We have looked at the influences of heredity and the process of maturation upon development. We have studied learning, attempting to understand something of how learning takes place from the models of conditioning and something of what we learn, using the cultural "of courses" and intellectual functioning as examples.

The significance of childhood in development seems obvious. During childhood and adolescence all of the bodily changes take place which transform the helpless tiny baby into a full grown man or woman. Our language, many of our concepts about the world, much of the "information" which will be used in adulthood—all are derived from childhood experiences at home or at play or in school. As we have seen, it may well be that the patterns for use of intellectual abilities are laid down during the early preschool years.

There is another aspect of development which we must examine now. It is the proposition that our most enduring psychological attributes, the basic underlying attitudes toward love and work, are evolved gradually through a definite series of stages. The stages are considered to be sequential, one following the other in ordered progression.

The student is to understand that in describing "ages and stages" we are dealing with theory. Descriptive studies of childhood in our own country lend support to the notion, though exactly what happens at each stage is described differently by different investigators. But whether or not this is a universal pattern of development is not known. Many more comparative studies of development under differing cultural conditions will be needed before that can be ascertained.

Nevertheless, the framework provided by the theory of developmental stages has been given such widespread currency that some understanding of the concept seems essential. For our purposes, we will borrow from the descriptions of Dr. Erik H. Erikson who suggests that development does not cease with adulthood, but rather continues, with a "developmental task" to be accomplished at each stage including old age.[1]

Critical Period Theory of Development

We first met the concept of a "critical period" in the discussion of prenatal development. During embryological development the differentiation of cells making up specific tissues seems to take place according to some basic timetable inherent in the organism. If some untoward influence interferes with the "time for ascendency" of a particular tissue, that tissue is blighted. Its "critical period" has passed and it is time for another to arise.

Dr. Erikson extends the idea of a critical period for tissue development to the development of certain basic attitudes toward others, toward one's self and toward life in general. These attitudes arise, he suggests, in a manner analogous to the development of specialized cells from the undifferentiated mass. During each stage of development, there is a "developmental task" to be accomplished, which not only contributes some vital outlook or attribute of personality, but forms the undergirding for the next stage. If the development of a particular attitude is discouraged, the personality will be deficient in the basic outlook which should have arisen at that critical time. Furthermore, the succeeding steps have only a faulty foundation on which to build and the total "life style" suffers as a result.

Erikson points out that the stages should not be thought of as discrete periods of time, beginning at a specific age and ending at another. Rather, as is the case in maturation, the ages are approximate and there is considerable individual variation. In a recent publication he also warns that the achievement of one stage or another does not mean that the battle is won once and for all.[2] He suggests that the hazards of development must be continually reconquered as the various crises of life occur. However, if a positive balance has been achieved for an attribute during its critical period, recovery is attained more easily during a period of serious threat.

In general, Dr. Erikson suggests that there is a kind of ground plan in the human life cycle, that the life of the individual can be divided into fairly definite periods, each one critical both in its particular contribution to basic personality and in furnishing the underpinnings of further development.

The Eight Psychological Ages of Man

Infancy—basic trust vs. basic distrust. Baby embarks on his human career as a small bundle of unorganized potentialities. In the beginning he responds wholly in terms of his own internal sensations. When those inner stimuli become painful, he registers his dismay in the only way he can—by crying. If his mother hastens to comfort him, if she tries to do what she can to alleviate his distress, the fact of her concern seems to be somehow communicated to the baby. Sullivan's term for this emotional "contagion," you will remember, was "*empathy*."

Gradually baby learns to associate mother with the relief of his discomfort and with pleasurable sensations—being picked up, being fed, rocked, caressed or lullabied. He learns slowly that when he is cold or wet or hungry there will be prompt and loving care to redress his misfortune. When this happens consistently, over and over again, baby begins to develop a kind of faith or trust that his needs will be satisfied. At about four months he is likely to stop his hungry crying when someone approaches, anticipating or trusting that he will be fed.

Basic trust is Dr. Erikson's description of a gradually growing sense that the world is a dependable place. He suggests that it is the first cornerstone of a healthy personality. In simple words it means that baby comes to feel, as a deeply ingrained, "pre-language" attribute of his being, that the world is a pretty nice place and the people in it are friendly and helpful.

Contrast, for a moment, our happy baby with one who is not so fortunate, who is rarely picked up, whose distress signals bring only grudging attention, who is treated with cold rejection. It can be suggested that this infant's first impressions of the world will be filled with apprehension—a pervading sense that life is harsh and painful and that people are no help at all.

Such a child is thought to develop a diffuse anxiety, a *distrust* of a cruel world. He may become preoccupied with his own needs because

Infancy is a time of basic trust.

of the constant uncertainty that these will be fulfilled. Having been given so little opportunity for responding positively to others, his relationships are likely to be demanding, hostile, fearful or simply cold and withdrawn.

By projecting these first generalized impressions which the infant receives of the world and the people in it, it is possible to understand why a sense of basic trust (or failure to develop it) has such a profound and lasting influence. The well-loved baby's approach to others tends to be one of cheerful confidence. His view of the world as a happy place colors his attitudes toward all future events. Who can resist a joyful, chortling cherub? Even the dourest among us beams and responds in kind, thereby reinforcing the infant's perceptions. On the other hand, a child who expects little but pain and neglect in the world tends to approach others sullenly, convinced of their hostile intentions. And people turn away from such an unpleasant child, unwittingly perpetuating his view of the world.

The earliest experiences in the heart of the family, then, become prototypes for relationships with others. From the significant adults in his life, the infant acquires expectations which are extended to people in general. Under happy circumstances he will come to regard people as well-intentioned.

Basic trust—the term is intended to convey the flavor of the infant's satisfying experiences with the world, together with a growing sense of confidence in his own powers. Gradually his body begins to respond to his bidding. He can finally close chubby fingers around the bit of food on his high-chair tray. He begins to test the other people of his environment. Father's strong arms are discovered to provide a substantial haven and father is accepted into the circle of confidence. The unsubdued frolicking of older brothers and sisters may startle baby at first, but he will soon attempt to join the goodnatured roughhouse, thoroughly enjoying a vicarious participation on the fringes of the activity. Grandma and grandpa, the cleaning lady, visitors to the household—the circle of cordial people becomes wider and wider during childhood, building and fortifying the basic trust which is an essential component of the capacity for love.

Those who work with the mentally ill find a remarkable sameness in the case histories of their most disturbed patients. Over and over again it becomes apparent that these patients were sorely neglected or abused or emotionally deprived as infants. So unloved were they that they failed to develop the basic trust which enables one to build binding ties with another. And because man cannot exist in such psychological isolation, they suffered the psychological breakdown which we call mental illness.

Early childhood—autonomy vs. self-doubt. Nature and culture conspire against the blissful state of infancy, however. The growth process produces teeth and increased motor ability. If the child is breast fed, he may be weaned when nursing becomes painful to mother. Household activities and furnishings now must be adjusted to accommodate a wandering toddler. Books and precious bric-a-brac are moved up out of reach. A playpen may further restrain the energetic little explorer. The doting adults who have been his loyal servants begin to make demands upon him. Baby probably has his first experience with "No, no!" The household schedule which hitherto revolved about the feeding and sleeping habits of the infant swings back to normal. The child must start to adapt himself to the family and its practices rather than the reverse.

The process of training him to live in society has begun. But baby has changed from a receptive little being into a person with definite, self-initiated desires and ideas. Now, building upon the earlier established sense of trust, the child insistently asserts his right to make his own decisions: to come or not to come, to eat or push away his plate, to nap or remain awake, to potty or soil his clothing, to give up the plaything or clutch it to him. The stage is set for the development of the second important ingredient of the healthy personality, the quality Erikson terms *autonomy*—the sense of being someone who can decide for himself, who can stand on his own two feet—the deeply ingrained sense of independence.

Every parent becomes aware of this step in personality development when the comparatively placid one year old becomes the fiercely rebellious two year old whose favorite word is "No!" This is the "negative stage." Because of its similarity to the renewed struggle for independence which takes place later on, some psychologists call it the "first adolescence."

It's a difficult age, certainly for the parents and probably for the child. His experience is still too small for understanding of the routines and regulations which he finds so arbitrary. He must be protected against dangers which he is incapable of comprehending. He cannot be permitted to tyrannize the family. He must begin to abide by some of the rules which make it possible for us all to live together in society. And yet his budding struggle for *autonomy* must be accepted and encouraged so that it will blossom into the wholesome conviction that he is able to make his own decisions. At the same time he must learn to heed advice and good counsel on important issues.

This, it can be seen, is a fine and precarious balance between independence and conformity which each of us must work out over and over again throughout all of our lives. Indeed, some psychologists see it as a crucial balance for psychological well-being. Erich Fromm calls it the conflict between the "need to think" (for one's self) and the "need to be loved."[3] Gordon Allport terms it the conflict between "tribalism and individuation."[4] Both describe the fact that the family (and, later on, the group) tends to reward for compliance, for giving in. But we are also pressed by the inner need for freedom to be ourselves. And so each

The ability to decide for oneself comes early in childhood.

of us must decide, many times, now in favor of one and now in favor of the other.

Erikson suggests that the basic pattern for this balance is determined during the critical period of the negative stage. Although the child proclaims his resistance to adult demands from the roof tops, he is still very much aware of his utter dependence upon the very adults he defies. This dependence makes him terribly vulnerable to the potent weapons adults have at their disposal—ridicule, shame, force and withdrawal of love—weapons well contrived to make the child *doubt* himself and his capacities for self-determination.

So it is that we see individuals who must have long since given up the struggle; those who slavishly follow the group, who buy group acceptance at the costly price of their own creativity. We also see the perennially rebellious ones, still fighting the old battle of childhood independence, protesting for the sake of protesting and destroying the possibility of constructive group procedure.

The negative stage seems to last for about two and a half years, extending from approximately age fifteen months to about the age of three. During this period the parent must steer a hazardous course between Scylla and Charybdis in the attempt to encourage in the child a firm, sure sense of his own autonomy and yet teach him to accept direction and guidance. In our own culture, toilet training frequently serves as a focus for this problem.

It is important to understand, however, that it is not toilet training per se which causes so much trouble. If it were, we might simply offer parents expert advice on this particular piece of socialization and all would be well. On the contrary, toilet training, like the weaning which precedes it, merely serves as a dramatic example of the changing relationships between parent and child.

First he is a passive, receptive baby. We expect nothing from him except possibly a joyful gurgle for our attentions. Suddenly—it must seem to the child—all of this changes. The toddler develops a mind of his own and parents begin to insist upon certain kinds of behavior. The child's desires often run counter to parental demands. It is this complex interrelationship, of which toilet training is but one instance, which importantly affects the youngster's developing personality. It is the *feelings of the parents about their child as a person* which are reflected in their handling of him, no matter what the specific method or particular occasion. Are they determined to "break him," to mold him to their own ideas, or are they content to permit him to develop his own potentialities at his own pace? Do they regard him as a person in his own right, or does his assertion of independence threaten their feelings about their own authority? Does one parent use the child to punish or thwart the other? Do they tend to exploit the child to bolster their own languishing sense of self-importance? Are they so lacking in self-assurance that they avoid any conflict with the child, indulging his slightest wish and permitting him the anarchy of his own desires?

Answers to questions like these determine the quality of the parent-child relationship. It is this over-all atmosphere, the total warp-and-woof of parent-child interaction, which is "absorbed" by the child and transformed into his own deepest attitudes about himself and toward others.

So there is no guaranteed prescription for guiding youngsters safely through the negative stage or any other phase of his development. It can be hoped, however, that parents will come to understand this exasperating time when the two year old pits his will against theirs as a necessary and vital contribution to his personality growth.

The successful outcome of the negative stage is the independence of spirit which we Americans prize so highly, embodied in literature through our frontier heroes and placed high among our ideals in the concept of the dignity and worth of each individual, one's self included. It is manifested in the ability of the teenager to hold firm in the face of scorn from the gang when he protests against drinking or reckless driving. It is demonstrated in the courage of an adult standing up for his convictions, though these be unpopular. The unsuccessful outcome, self-doubt, takes a variety of forms. It may appear as belligerent rejection of all authority or as fear of any group endeavor lest a portion of one's hoarded independence be destroyed. It may result in timid conformity and a yielding to group pressures even when these go against one's best inclinations.

Ages four, five, six—identity vs. confusion. With the first two ingredients of a healthy personality, trust and independence, established,

The preschool child searches for identity.

the third phase begins to unfold. The child is now about four years old. Under favorable circumstances he has acquired a fundamental concept of the world as a pretty happy place where one can find comfort and reassurance if these are needed; and he has a confidence in his ability to decide certain matters for himself. By this time his motor abilities have developed to the point where running, jumping, climbing and similar feats require little or no concentration upon the effort. Having become fairly sure of himself as a person, the child now concentrates upon what kind of a person he can be. This is the age of imagination which knows no bounds or limits. Indeed, the child is not yet able to distinguish clearly between what really is and what exists only in his mind. Many parents are distressed during this period because Tommy seriously insists that he saw a fierce tiger in the back yard; they fear that Tommy is becoming a prodigious liar. Children of this age seem prone to nightmares for the same reason. The vigorous imaginings often include hostile wishes toward parents or brothers and sisters, and the line between the wish and an actual fact is not really clear. The child literally frightens himself with his own ideas.

It is a rather wonderful age. Possibly never again will the youngster be so intensely creative, so exuberantly able to express himself with smearings of color, with mud and sand, through action and sound. The packing crate becomes a store, a train, a boat, a bridge, a mountain and a fire engine in rapid succession. The meagerest of props transforms the child into someone else. With mother's shoulder-strap bag he is the mailman. With a little toy truck he delivers groceries, brings the milk or carts off garbage. A shovel makes him a bulldozer. A sheaf of papers and he is daddy, working at the desk.

The search for "what kind of a person one can be" is called *identification*. Little boys become aware that being a boy is different from being a girl and little girls begin to understand that femininity is different from masculinity. This sometimes includes an unfortunately vague concept of the genital differences. Even normal children are apt to indulge in sporadic sex play at this time. Children who are confused about the sex differences are much more likely to be compulsively curious—a little girl anxiously endeavoring to ascertain if all boys possess the male organ and entertaining bewildered fantasies of how she might have lost hers, while little boys in the same confused state fear secretly that they, too, might somehow lose the organ.

Identification includes much more than knowledge of genital differences, however. It is a way of trying out the role of the parent of the same sex who serves as the primary model of "what one is to be." It is a way of acquiring, as a deeply integrated part of the personality, the feeling that though one is small now, some day he will be as fine a man as his father. It is a way of "getting the feel of" not only one's own role in the scheme of adult things, but also the relationship of that role to others. Little girls, playing at being mother, scold their doll-children, greet "daddy" warmly or irritably at the playhouse door, complain of having had a perfectly exhausting day or suggest that supper is all ready, in careful mimicry of their mother's habitual tones and practices.

If the primary model has a well established sense of personal worth and carries out the sex role with a feeling of purpose and accomplishment, these attitudes become a part of the youngster's own concept of himself as male or female. *Confusion* of identity can occur when the primary model is harsh and cruel or merely weak and ineffective. It can occur for a girl who is born to parents who had their hearts set on a boy, and who is made to feel all her life that she must atone for her deficiency. It can occur for the son of a doting, overprotective mother.

The identification process in our own particular culture seems to be generally somewhat easier for girls than for boys. Before the industrialization of our society, most fathers worked close to the home, in the fields of the family farm or in small business establishments located just down the street. Under such conditions it was relatively easy for the small boy to see and comprehend "what daddy does." Nowadays the majority of fathers work at complicated tasks in factories, offices or businesses located a considerable distance from home. The father goes off to work at eight in the morning and does not return until evening. The small boy is left completely in his mother's charge. His mother is the arbiter of his life, the one who metes out discipline and punishment. The father's role in the household is very difficult for the four year old to understand. If his father, seeking relief from the tensions of the day, buries himself in the evening paper upon returning home, the young son's masculine identification is further hampered. An occasional desultory game of ball or a trip to the zoo on week ends gives the youngster too little contact with a strong, idealized male after whom to pattern himself. Thoughtful students of our contemporary scene suggest that this state of affairs is further worsened by the total absence of male teachers in kindergarten, first and second grades. The little boy is therefore dominated by females during all of the formative years—and his sense of stalwart maleness tends to be rather shaky. To him, it must seem that women are the power-wielding figures in the world and theirs the coveted role. Psychiatrists tell us that many men reared under such conditions fail to develop a confident, sure feeling about themselves as men, that such men tend to marry strong-willed women who dominate them as their mothers once did. Considerable hostility may develop between the married partners as a result—the husband unconsciously despising himself for his basic weakness and inwardly chafing against his wife's heavy-handed manipulation while the wife bitterly resents the lack of firm, decision-making male protection for which she yearns.

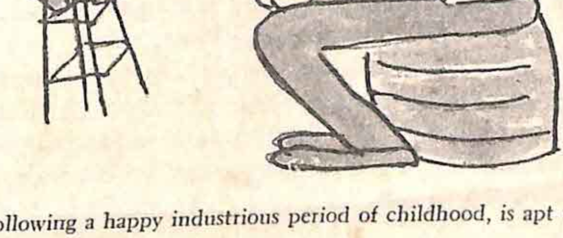
Ages four, five and six, then, are crucial for the development of a cheerfully positive conviction that what one is, male or female, is fine, that each has a productive and mutually complementary role to fulfill in the world and that one has the inner capacity to grow up and become a real man or woman, as the case may be.

Later childhood—industry and accomplishment vs. inferiority. By this time the youngster has entered school. Having assured himself of what he is and what he can be, he now is free to concentrate on what he can do. Some psychologists term this the *latent stage* because the youngster's conflicts about himself as a person and his relationships to others seem to be temporarily laid aside. Erikson suggests that this is the age which is important to the development of a sense of *industry*. Make-believe and the world of imagination are no longer as satisfying as they were earlier. The noisy games of cowboys tend to be abandoned in favor of accomplishment: projects of construction for boys, ranging from model airplanes and boats; to club hideouts, and Cub Scout activities; sewing and cooking and helping with household tasks for girls. Group projects become absorbing, interests develop into hobbies, music or dancing lessons may be started with profit. Good teachers and wise parental guidance are vitally necessary here to sustain and to channel the explosive energy, so that the youngster learns that he can accomplish and that accomplishment is wonderfully satisfying. Danger lurks in the possibility that the child may tackle too much, accomplishing little, or that he may fail too often. Parents who set standards too high, who praise too rarely, or teachers who cannot be pleased foster the opposite of industry—a sense of *inadequacy and inferiority*.

Pride in doing is, of course, not only important to the individual personality; it is also vital to our society. Mass production and assembly-line methods have removed from the worker some of the possibilities of gleaning a personal satisfaction from a well finished product. It is difficult for the workman who twists bolts all day to feel that he has played a large part in fashioning the automobile which comes forth at the end of the assembly line. The tremendous revival of do-it-yourself activity in the home seems to have arisen as a partial answer to this problem. Industry is experimenting with a variety of programs in the attempt to give its workers a personal stake in the product. Community college programs for adults offer the possibility of capturing the zest which comes of new learning, and there is a widespread feeling that this, too, may encourage the sense of doing something worth while which is so important to a healthy personality.

Adolescence—renewed identity vs. identity diffusion. The relatively peaceful years of seven to eleven, during which the fortunate youngster learns the excitement of a task well done, during which he learns to work beside and with others, as well as the beginnings of the intellectual skills necessary to his future as a citizen in a complex society, are the lull before the storm of adolescence. Many reasons have been advanced to explain why the course of adolescence in our own society is so rocky, while in some other societies it seems to be relatively serene. For one thing, our youth must, because of the long preparation required for roles in a complex, industrialized world, remain dependent upon parents during the period when the psychological urges are toward independence. For another, our young people generally are ill-prepared for the tremendous physiological and emotional changes which they must undergo. The body becomes ready for reproduction long before the individual can assume the responsibility of a family. The newly surging sexual feelings create considerable conflict and are frequently a source of distress to the adolescent boy or girl.

Adolescents face several difficult tasks, each accompanied by emo-



Adolescence, *following a happy industrious period of childhood, is apt to be stormy.*

tional crises. The adolescent must wean himself, psychologically, from his parents. This is no less difficult than his weaning long ago as an infant. He sometimes seems to take one step forward and two steps backward. Self-doubts propel him in the direction of parental protection while his own inner growth forces move him in the direction of shaking off the restrictive bonds. He tends to revolt in all directions in the effort to cover up his doubt, demanding forms of independence for which he is not yet ready.

The adolescent must establish satisfying relationships with the opposite sex. Here he treads a rather narrow tightrope: The growing sexual desires must not be permitted to drive him into a relationship for which he is neither socially nor emotionally ready; on the other hand, he must not hold himself so aloof that he fails to develop any intimate attachment (which includes the endless talking over of things together, discussing hopes and wishes, plans and expectations, confessing what one is like inside and listening understandingly to similar confessions). In establishing such relationships, of course, all of the previous experience with relationships in the family comes into play. The sense of trust permits an approach which is free of suspicion and hostility. The sense of independence promotes a conviction of the other's worth and dignity as an individual as well as one's own. The early established sense of identity has fostered acceptance of one's own sex as well as laying down the basic pattern for relationships with the opposite sex. If these foundations of a healthy personality have somehow failed to become established it will be very difficult for the young person to build the warm, close, mutually supporting and satisfying kind of relationship upon which a successful marriage is based.

The third large task of the adolescent is to relate himself productively to the world of work. This involves choice of vocation or career and undertaking the necessary preparation for it. Here, too, there seem to be many pitfalls. In spite of strenuous efforts on the part of our schools, far too many young people drop out as soon as the legal age permits it. Allison Davis, in a report to the Midcentury White House Conference on Children and Youth, points out that the youngsters who fail to finish high school are, by no means, only those with inadequate ability.[5] On the contrary, many of them have better than average intellects and therefore represent an appalling waste of human resources. They must settle for jobs far beneath their capacity and join the ranks of dissatisfied, restless workers—a real loss both to the nation and to themselves. We know that for many of these young people schools or home or both failed to promote the sense of industry and accomplishment. Many of them never learned to read with the necessary ease so that school became more and more intolerable. Many, from lower socioeconomic levels with standards and ideals wholly different from those of their middle-class teachers, found school an alien and hostile world which they determined to leave as soon as possible.

Even the happy youngster who likes school and gets along well in learning both the literate and manual skills, however, frequently faces qualms of indecision over the selection of his life's work. Sometimes parents have their hearts set upon having a doctor or a lawyer in the family when the youngster's inclinations and capacities are not suited to such a profession. The father may dream of his son's taking over the family business and scoff at talents which lie in another direction. The youngster himself is often bewildered by the vast array of possibilities before him and uncertain of where his interests lie. Wise and judicious parental guidance as well as full use of the vocational counseling service provided by many schools can help in making a fortunate choice. Long before this point, however, the young person should have been encouraged in a wide variety of activities which serve to focus interests, develop talents and determine natural abilities.

Sympathetic and understanding parents and teachers can do much to lighten the emotional burden of the adolescent. He needs to know that they understand and welcome his efforts toward growing up, that the restraints they impose upon his steps toward independence are necessary limitations for his own welfare and the welfare of others. If he has demonstrated that he is not yet mature enough to handle the family car with a sense of responsibility, for example, then his driving must be restricted; but, recognizing that he is soon to be an adult, along with the restriction should go a thoughtful explanation of the reasons why. Parents must accept without hurt the fact that the youngster is likely to reject their standards and ideals temporarily. He seeks security from his self-doubts by strict adherence to the modes of dress, speech, manner, ideas and activities of a gang or clique. These adolescent groups are often cruel in their intolerance of differences—of skin color, of background, of economic level, of anything which sets the individual apart. Parents can take comfort in the knowledge that if they have maintained in the home a sturdy respect for individual worth, the teen-ager who now seems so blindly prejudiced will reassert these human values as he begins to feel more secure in the new and confusing world of adults. Most of all, the adolescent needs to feel that he is still well beloved and that his parents stand as safe ports in the storm, to which he can retire temporarily when the going gets too rough.

The hazard of adolescence is that the *identity diffusion* that characterizes the period will persist, giving us young adults who are still frenetically pursuing wholly elusive goals, typified by two of Jack Kerouac's characters. One says, "We got to go and never stop till we get there." "Where are we going, man?" the other asks. The answer is, "I don't know, but we gotta go." Or persisting identity diffusion

With adulthood, life comes round full cycle.

can lead to the kind of behavior demonstrated by the motorcycle brigades who terrorize a town to prove they are "somebody"—even if down deep they don't believe it.

Childhood and youth should come to an end with the establishment of a new sense of identity, Erikson tells us. Its proportions are more profound than the earlier identification of the child with the loved and admired parent, though this must have been successfully accomplished as a basis for this later stage. The new sense of identity includes feeling "at home" in the body which changed so radically. It includes a general feeling of confidence in one's ability to take on adult tasks and obligations. In contrast to the four-year-old's achievement of identity by being as much like another as possible, the young adult's sense of identity is built upon an assured feeling of being one's self.

Young adulthood—intimacy vs. isolation. With the achievement of this inner integrity, the young adult is ready for yet another step forward, a step for which all the previous stages have served as preparation, the step which Erikson calls *intimacy*. It is time for selection of a life partner and for beginning a new family. It does not require any great stretch of the imagination to understand that a truly satisfying sexual relationship is the most intimate of all human relationships, nor is it difficult to see that the partnership of husband and wife involves much more than that supreme emotional moment. True intimacy includes both a mutual trust and a mutual respect. It means shared enterprise. It demands love, freely given and freely accepted. And it also must involve, on the part of both partners, a joyful acceptance of the responsibilities of parenthood.

Erikson has suggested a short schematic formulation of the goals of mature and responsible adulthood. He feels that the ideal, the state of emotional well-being for the healthy personality should include:

"1. Mutuality of orgasm
2. with a loved partner
3. of the other sex
4. with whom one is able and willing to share a mutual trust
5. and with whom one is able and willing to regulate the cycles of
    a. work
    b. procreation
    c. recreation
6. so as to secure to the offspring, too, a satisfactory development."

It would be difficult to arrive at a more concise definition of emotional maturity than this. It implies a successful journey through the stages of the past and a wholesome acceptance of the future. It in no way denies the possibilities of mental health for those who, for some reason or another, do not marry and build new families. It suggests only that this is fulfillment of the grand design for which we innately strive.

Adulthood: generativity vs. self-absorption. Young people in love feel that they will be perfectly content if and when they only have each other. Out of the intimacies of their shared life, however, should come the desire for children.

Erikson tells us that he rejected a number of terms before coining the word *generativity* to connote all of the aspects of responsible parenthood. It would include a deep and abiding interest in guiding the new generation, together with a sure sense of what to expect and what not to expect from the child at each stage of his life. It would include parental adherence to the values they wish to impart to their offspring. It would include productivity and clear acceptance of the part each must play in shaping the world which will be bequeathed to the children.

The converse of generativity is termed *self-absorption*. Parents who are immersed in themselves, whether by reason of their burdens or their inadequacies or both, cannot provide the solid, supportive structure within which the child may safely mature at his own rate. And so the failures of the parents are transmitted to the offspring unless someone or something can break the tragic round.

The later years—integrity vs. despair. Thanks to the advance of medical science, the chances are that most of us will be able to live out the latter portion of this "grand design." Whether we do so with dignity and an assured sense of order and meaning in the total scheme of life (which Erikson sums up under the term *integrity*) or whether we end our years in *despair* will depend importantly on the lessons learned in the preceding life stages. The relationships we have built with others, including members of the new family we helped to create, our orientation toward love and work, our feelings about ourselves—all these will create problems or bring serenity to the "senior citizen" status.

Certainly a measure of difficulty can be charged to the fact that our society overvalues youth. Whether aware or not, each of us has acquired the notion that it is "better" to be young. If we think about growing old at all, it is with sad resignation to the inevitable.

But the beginning of the pattern for later years is woven during youth. Those who fill their days with "busy-ness," whose only sense of significance comes from the paycheck, the status on the job, the tidyness of the house and the accomplishments of their children will be truly bereft when the time for retirement comes and children go off to lead lives of their own. Nor will it suffice to make fine resolutions about enriching the later years with trying one's hand at painting, delving into exotic fields of knowledge and accomplishing all those things presently postponed, if creativity and the world of ideas are neglected earlier.

Integrity, then, stands for the continuity of the life tapestry. Threads of laughter, joy and beauty must have long since been introduced in order to figure in the later design. "The last of life, for which the first was made"—the poet understood well that a drab and bleak old age simply carries on the impoverishment of spirit in youth.

While society must undertake to make full use of the powers and wisdom of its elder statesmen, it is our own responsibilty to have so improved youth's shining hour that we will truly have something to contribute.

Summary

1. The theory of human development through "ages and stages" suggests that certain fundamental psychological attributes evolve gradually in sequence, with each age serving as the stage for acquisition of particular traits.

2. Descriptions of the ages and stages differ. Dr. Erik Erikson's "critical period" theory proposes a "developmental task" to be accomplished at each stage. Furthermore, he suggests that an analogy can be made to the critical period of cell differentiation in embryological development. If the hazards of a particular stage interfere with accomplishment of the developmental task, the attribute which should have arisen at that period will be defective. Thereafter, succeeding stages will also suffer, being built, as it were, upon a faulty foundation.

3. Erikson describes eight such critical periods:
Infancy—basic trust vs. basic distrust
Early childhood—autonomy vs. self-doubt
Ages four, five and six—identity vs. confusion

Later childhood—industry and accomplishment vs. inferiority
Adolescence—renewed identity vs. identity diffusion
Young adulthood—intimacy vs. isolation
Adulthood—generativity vs. self-absorption
Old age—integrity vs. despair

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SECTION III

Human Behavior: Why Do We Behave as We Do?

In the preceding section we watched the human organism grow and develop and saw something of how he learns. Now we will turn our attention to human behavior. Why do people behave as they do?

Of all questions, this is one of the most baffling. Men have preoccupied themselves with it down through time. Particularly when behavior seemed out of the ordinary, many ancient peoples ascribed it to an outside force of some kind. If you fell in love, it was because of an arrow from the bow of the mischievous little boy god of love. Or perhaps a sorceress had prepared a potion which you had taken unknowingly. If you behaved wickedly, you were under the power of an evil spirit. However, ancient peoples also thought in terms of internal causes; melancholy was considered to be the result of an excess of one of the four humours of the body, "black bile."

We are still looking, inside and outside, for causes of human behavior. As we will see in the coming chapter, psychologists are not yet wholly comfortable with the explanations for behavior which have been devised. Nevertheless, there are a number of points upon which many psychologists agree. We will discuss some of the theories dealing with the "why" of human behavior and some of the commonly recognized factors which seem to move or motivate *human beings; we will take up the role our feelings play in provoking behavior; and finally we will look at "personality," the patterns of behavior which are characteristic of the individual in his adjustment to both inner needs and the demands of his environment.*

Chapter 9 SEARCH FOR A THEORY OF HUMAN BEHAVIOR

To search for the "why" of human behavior seems eminently reasonable to all of us reared in Western civilization. We are taught to look for cause and effect. There is no more exasperating answer on the face of the earth than that of one who, when asked why he did something, replies "I don't know." Our irritated response is that he *must* know. Perhaps he won't tell, but really not being able to offer a reason for his behavior seems preposterous.

Most of us are relatively content with the explanations we offer for our conduct. These explanations form a great portion of our social interchange. "I'm going to bed early tonight because I'm so sleepy." "Let's hurry to the dining room because I'm so hungry." "Harry danced with John's girl all evening and John stalked off the dance floor because he's so jealous." We understand the content of these communications and feel that we understand the behavior involved.

For the psychologist, the problem of understanding behavior is not so simple. He would agree to the proposition that there are causes underlying human behavior. However, a list of all the possible causes would extend as far as the mind could reach. Each piece of behavior might have its own particular cause, and therefore there would be no way of predicting the circumstances under which such and such behavior would occur. Without prediction, there is no understanding.

The psychologist, then, must attempt to create some order out of all of the reasons advanced for human behavior. Can the reasons be classified? Can many be subsumed under one heading? Might it be possible to boil the whole list down to one or two basic causes of all the causes? Can a logical and cohesive system be proposed which would hold for all human behavior?

There have been a number of attempts to devise systems which might account for human behavior. Let us look at a few.

Theory of Instincts

One of the earliest points of view to be given credence in psychology was that of *instincts*. Man behaves in certain ways because of innate dispositions or tendencies—this is the instinct explanation of behavior. In one form it listed such instincts as flight, repulsion (disgust), curiosity, pugnacity, self-abasement, self-display, reproduction, gregariousness, acquisition, construction and parenthood, all considered to be "built in" in the nature of the organism.[1]

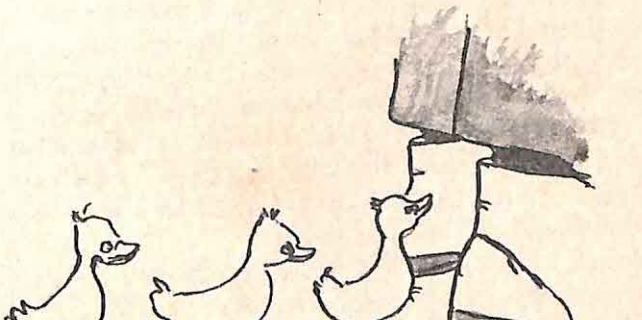
It is easy to understand the "common sense" validation of the instinct explanation. We see much behavior which seems, on the surface at least, to be common to all mankind. On every side, people are fighting, reproducing, building, living together in tribes or nations, and acquiring possessions. "Aha," says common sense, "these behaviors must be determined by something innate, like the hibernation of bears or the hive building of bees."

However, there are a number of objections which can be raised against instincts as an explanation of human behavior. In the first place, if an instinct is inborn, it should appear in all men, in all cultures. Evidence from anthropologists shows clearly that some forms of behavior, once thought to be instinctive, are not universal. Competitiveness is an example.

Furthermore, when we are attempting to understand the "why" of behavior, to simply attach a label does not help at all. When we say that the adult salmon returns to spawn in the headwaters of the inland stream where he was born because of instinct, we really do not know any more than we did before about the fundamental basis of this behavior. However, it has been demonstrated that as the salmon matures sexually, it undergoes metabolic changes which require more oxygen. Since ocean water has a lower oxygen content than fresh water, this could begin the explanation of salmon migration as a result of physiological events within the adult salmon.

When the complex stimuli underlying behavior can be unraveled, they provide a much more satisfactory understanding than that yielded by the term "instinct." A group of European zoologists who call themselves *ethologists* are taking steps in this direction. Their interest is in studying the interplay of maturation and learning in behavior that was formerly attributed to instinct. One example is the tendency of young ducklings to begin to follow their mother shortly after hatching and thereafter to follow only that particular female duck. The inborn aspect of this tendency can be seen in that it is characteristic of all ducklings and that it occurs at about the same time for all ducklings, between 12 and 17 hours after hatching. However, it was discovered that if the ducklings are isolated from their mother, they will follow *any* moving stimulus, attaching themselves to it and remaining with it even when the real mother is reintroduced. One of the ethologists himself became "mother" to a little train of ducklings who followed faithfully behind. Thus it can be seen that "instinct" in this case is a complex pattern of behavior in which a response emerges without previous practice when the maturational level is just right, but that the response is greatly influenced by environmental circumstances. The ethologists call this process *imprinting.*[2]

Another line of evidence showing the influence of environment and opportunities for learning on what has previously been considered "pure instinct" comes from the laboratories of Dr. Harry F. Harlow at the University of Wisconsin. Actually, the discovery came about as an unexpected by-product of a series of investigations Dr. Harlow was conducting with rhesus monkeys. In the course of these investigations 47 monkeys had spent the first year of their life in isolation. They could see other monkeys and hear them, but were not permitted any kind of social contact. When the time came for these monkeys to produce new monkeys for the laboratory, they were introduced to each other with every assumption that nature (or the reproductive instinct) would take its course. Nothing could have been farther from the case! The result was either fighting so vicious that the pair had to be separated, or downright disinterest. The investigators tried other stratagems. The isolation-raised males were paired with normal, receptive females. No luck. Isolation-raised females were introduced to the laboratory's "most experienced, patient, and gentle" males with a similar lack of success. Then the investigators sent 18 of the isolation-raised monkeys to a lovely monkey island in the Madison zoo, thinking that perhaps they would



Imprinting depends on maturation and environment.

learn from the activity of normal monkeys. Harlow comments wryly, "If normal sexual behavior occurred, no member of our observational team ever saw it, and had a female become pregnant, we would have believed in parthenogenesis."[3]

Harlow points out that infant monkeys raised together engage in a wide variety of play which includes a good deal of "infantile" sexual behavior; this includes grooming each other, posturing and mounting, often in the wrong direction and sometimes with the wrong sex. However, this kind of "practice" and learning opportunity is apparently essential for normal sexual behavior when the proper time comes.

So it is that the term "instinct" is gradually being abandoned, even as an explanation for animal behavior. The term is still used descriptively to refer to a complex pattern of behavior, characteristic of a given species, which appears "full blown" without previous opportunity for learning, when the underlying maturational level of development has been reached. It is the "without previous opportunity for learning" portion of this definition which tends to rule it out when referring to human behavior. Though maturation is as important a factor in guiding and limiting behavior in humans as in other species, it has not been possible to demonstrate any complex patterns of human behavior which emerge complete and ready to go, without antecedent learning conditions.

Sigmund Freud: Life and Death Instincts

Let us now turn to another theory regarding the "why" of human behavior. This one was proposed by a physician who became a pioneer in the field of psychology, Sigmund Freud.

Freud's theories and ideas are a little more than half a century old. His influence on our present-day thinking can scarcely be estimated. Because his ideas ran directly counter to the mores and customs of his time, he became a highly controversial figure. Strong emotion is still engendered by those who feel he made an immense contribution versus those who think he was utterly wrong. Nevertheless, because of Dr. Freud, such terms as "unconscious motivation," "ego," "defense mechanism" and "psychoanalysis" have become everyday terms in our vocabulary. He fostered the idea of the importance of childhood to later development, the idea that "the child is father to the man." It would seem important for an educated individual to have some working knowledge of what Freudian theory is about.

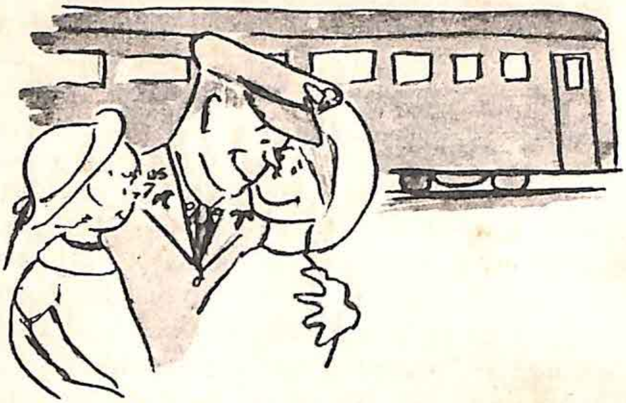
Freud based his theory of the underlying basis for human behavior upon the existence of two basic instincts.[4] In this, he allied himself almost, but not quite, with the other instinct theories. The reason for the qualification is that Freud's writings have come to us through translation from the original German in which he wrote. As any language student knows, the search for a word in one language which precisely defines the "feel" of the word in another language is very difficult and frequently the actual sense of the original suffers. The German word used by Freud to describe the basis of human behavior is "trieb." Lacking an exact counterpart in English, this has been translated as "instinct." But the German meaning of "trieb" entails much more a sense of driving force; it is really much more akin to our word "urge." More telling, however, in distinguishing Freud's theory from the other instinct theories, is his consistent emphasis upon the goal-directedness of human behavior, and upon the source of these instincts in the biological make-up of the organism. Freud's instincts do not float, as it were, in a kind of vacuum as do such instincts as "pugnacity" or "acquisitiveness." They originate in the tension systems of the body on one hand and are anchored in the object or activity which reduces this tension (the goal) on the other.

Freud apparently thought of his two "instincts" as the fundamental sources of dynamic energy—the storehouse of power which generates all activity.

Basic to all life, suggested Freud, is one major aim—that of self-preservation. Allied to this is a subsidiary aim which can be thought of as perpetuation of the race. In other words, he felt that, stripped of all its trimmings, life boils down to the business of staying alive and producing others to carry on the species. This basic instinct was called *Eros* after the Greek god of love. All of the inner tensions which impel us to build up, to construct, to preserve ourselves and our young might thus be thought of as representing this life force. It would include, of course, sexual tensions which lead (ordinarily) to reproduction. From this basic energy system comes the motivating power which enables us to build houses, clothe ourselves against the elements, secure nourishment, pursue a vocation and care for our children. For Freud, Eros was the underlying source of all creative activity.

The second "basic instinct" was postulated rather late in Freud's formulations. He observed that human beings are not only constructive and preservative, but that men hate as well as love, tear down as well as build up, destroy as well as preserve and that men die as well as live. He reasoned that there must also exist, within the organism, a biologically derived force which tends to lead organic matter back to the inorganic state. This is *Thanatos*—the death instinct, which Freud considered to be the source of aggressive and hostile behavior.

It is difficult for most of us to accept the notion of a "death instinct." Indeed, it represents a rather pessimistic view of mankind. If man is born with a fundamental tendency to hate and to aggress, there would seem to be small recourse except to build our prisons larger, hire more policemen and resign ourselves to ever-recurring war. Freud saw the two instincts operating together in all of life's transactions, blending, fusing,



Freudian theory suggests that man's constructive behavior is forever fused with destructive tendencies.

intermingling. When the life force is unable to neutralize the death force, old age and death ensue. It might be pointed out here, however, that a number of modern scholars who accept many of Freud's ideas still reject the idea of an inborn aggressive instinct. They suggest that the facts of hate and aggression can be just as well explained as arising out of frustration of the constructive energies. Thus, if we are blocked in some way from obtaining food when very hungry, there is a tendency to lash out in anger. It has also been reasoned that aggressiveness has certain life-preserving values—that it is responsible for the vigorous action with which an infant seeks to master his environment and that the ability to react with rage made it possible for primitive man to protect his family from marauding tribes and ferocious beasts.

What are we to make of Freud's life and death instincts as the chief underpinnings of human behavior? Certainly his concept of the biological derivation of these "instincts" is an improvement over the mere naming of a variety of instincts. But perhaps the theory can be criticized on the grounds that it is too economical in its attempt to categorize *all* human behavior as proceeding from a life-sustaining or a life-destroying source. While this may, indeed, succeed in reducing life to its basic essentials, it is difficult to maintain that the richness and variety of human activity can be dismissed in such Spartan terms. It requires a tortuous feat of logic to "explain" Beethoven's Fifth Symphony, the conquering of Mount Everest, the infinite nuances of one's relationships with others or the feeling of quiet delight in moonlit pines surrounding a still lake in terms of what seem to be basically biological factors.

This, at least, is a criticism frequently voiced. Many psychologists feel that Freudian theory lends itself poorly to rigorous testing, also, and tend to prefer a theory which can be more systematically explored.

For others, however, and for many psychiatrists, Freudian theory provides a good and workable framework for thinking about human behavior.

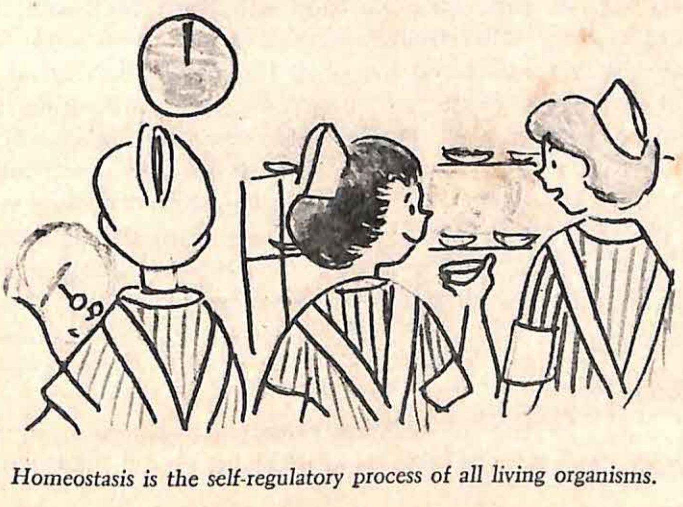
We will have occasion to discuss other aspects of Freud's theory in future chapters.

The Theory of Homeostasis

Homeostasis is a term which has come to us from the biologists. The term is used to describe the tendency of all living tissue to restore itself and maintain itself in a condition of balance or equilibrium. Operation of this characteristic can be noted in the tendency of the body to maintain a constant internal temperature. When external cold threatens to lower that temperature, we become uncomfortable and shiver, an involuntary activity of the muscles which causes the blood to circulate faster in an effort to counteract the chilling. On a hot summer day the body's cooling system swings into action and we perspire. When the body's temperature fluctuates, it is a sign that something is wrong.

There are other body balances which must be maintained for physical well-being: the oxygen equilibrium of the blood stream, food and water balances, chemical balances of glandular secretions.

A condition of imbalance or disequilibrium is called a *need*. It produces an uncomfortable sensation in the individual which is described as *tension*. We are all familiar with our own everyday manifestations of tension. At about eleven o'clock in the morning, particularly after a scanty breakfast, an empty, hollow feeling is likely to be noticed in the region of the midsection. It causes a slight restlessness; concentration on the business at hand becomes somewhat more difficult and when the hour swings around to lunchtime, we say "I'm simply starved!" If, for some



Homeostasis is the self-regulatory process of all living organisms.

reason, the meal were to be delayed, we would find ourselves becoming more and more preoccupied with an increasingly unpleasant internal sensation. As the disequilibrium becomes more acute, tension increases. And we are pressed into a more intense search for something to alleviate the discomfort. In the normal course of events, of course, mealtime arrives, we eat our fill, balance is restored (the need is satisfied or, to use the language of psychology, the need is *reduced*) and attention can be turned to something else.

So far it might seem that this depicts a rather static notion of behavior, a kind of fixed seesaw between disequilibrium and restoration of balance. This view fails to reckon with the effect of learning upon the process. Let us use an example of a hungry baby. Activated by hunger, he cries and is fed. In the beginning he has no idea of what specific activity will ease the discomfort. However, in just a few days after birth his behavior becomes much more focused. He will turn his face toward a slight stroking on the cheek and grasp the nipple vigorously, almost with what seems to be a sigh of relief. We suggest that already he is learning a direction for his responses, a specific behavior which has been rewarded in the past. Before long the learning extends to encompass attributes of the feeding situation. The events which precede and accompany feeding become linked or associated with the pleasure of feeding itself. After several months a "bottle baby" will wriggle with delight at the sight of his bottle. He will have learned to recognize the bottle as "meaning" food. Then the various activities in which mother engages when preparing to feed him will signal that food is "on the way." The author's four month old daughter would stop crying upon hearing the opening and closing of the refrigerator door, having learned this step in the sequence of being fed.

The varieties of learning induced by this single need have a multitude of ramifications. As time goes on baby will learn that substances besides milk also bring relief from hunger. The act of sucking itself may be associated with comfort and the small thumb can be used as a source of comfort even when he is not hungry. Because of learning, man can anticipate the repetition of hunger and take steps to satisfy future hungers: he plants crops, stores food and, at least in societies of abundance, schedules meal times according to some sort of learned rhythm of recurring disequilibrium. Therefore it can be suggested that the organism does not simply restore a prior balance. Because of learning, a new, complex, more comprehensive equilibrium is achieved.

Search Continues

The principle that all organisms react to changing conditions in such a manner as to maintain a relatively constant "internal environment" or "steady state" serves rather well for discussion of strong needs or drives rooted in the biology of the organism, such as the need for food, the need for sleep and the need for oxygen.

It is possible to extend the principle to include the "higher" levels of behavior. This point of view would have it that just as the organism strives to maintain a biological tissue constancy, so he attempts to maintain a psychological "even keel" with regard to needs which are no less potent because they have been learned. In these terms, any threat to a psychological need (such as the need for love) would mobilize energies in the direction of restoring the former balance. In other words all behavior would be seen as pointed toward the same ultimate end, internal quiescence or relaxation or "balance."

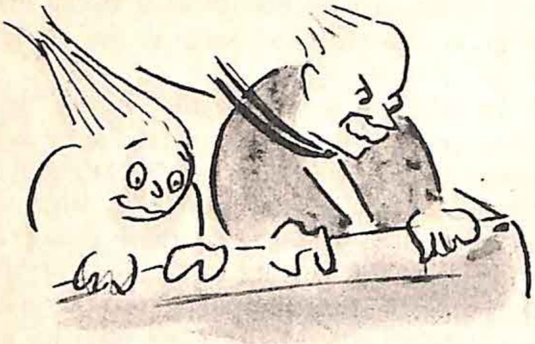
For many psychologists, however, this oversimplifies the problem and does an injustice to the complexity of human behavior.

One of the most telling objections is directed against the notion that the individual is forever seeking only relief from the tensions generated by his needs. Carried to its logical conclusion, this would seem to imply that the "ideal" organismic state is one totally relieved of tension. The only state which could produce this for the organism would be death, or, to a lesser degree, sleep This leaves us in the untenable position of proposing (if we advance homeostasis as a basis for all behavior) that the organism is ceaselessly trying to die—or at least go to sleep.

As a matter of fact, there is evidence that a state of near-equilibrium is neither a happy nor comfortable state for the human organism. At McGill University students were paid $20 per day to do absolutely nothing. The investigation was concerned with stimulus deprivation; therefore, everything possible was done to reduce the stimuli reaching the subjects to an absolute minimum. They lay on comfortable beds with the room temperature held optimal and constant. Eyes and ears were shielded to prevent stimuli from reaching these sense organs, hands were encased to reduce variable sensations of touch. Few subjects could continue such a "soft life" at admittedly excellent pay for more than one or two days.[5]

Several theories have been advanced to account for the fact that human beings, in addition to seeking surcease of tension, at times seem to deliberately court excitement, increase of tension, even fear. We ride roller coasters, drive cars at high speeds, read spy thrillers, go to bull fights, climb mountains and skin dive in dangerous waters. While it is possible to postulate learned needs for excitement or even a need to flirt with death, or to suggest that perhaps there are innate needs for exploration, manipulation and curiosity seeking, we may be resorting to the word magic of the instinct theorists. Naming a need does not explain it.

Several psychologists suggest, instead, a kind of elaboration of the notion of homeostasis.[6, 7] They propose that there exists for the or-



Human beings at times seem deliberately to seek excitement.

ganism a general "optimal level of stimulation" or level of adaptation. It is *this* level which the individual seeks, while operating in accordance with homeostatic principles. Monotonous conditions produce too low a rate of stimulation and we seek novelty, change, a little excitement. However, excessive stimulation produces too high a rate and we attempt to reduce the tension by obtaining the food or avoiding the frightening situation or securing the power or coming in out of the cold. The concept of "optimal stimulation" regards the organism as alive, active, searching for new unsettled states, rather than automatically returning to a previous relatively tension-free state of balance.

Dr. Karl Menninger incorporates both homeostasis and the notion of the individual seeking newness, variety and opportunity (which he terms *heterostasis*) into a kind of multidimensional approach.[8] He reminds us that we must not lose sight of the fact that the individual interacts with his environment, giving to it, taking from it, altering it and being altered by it. Thus the "balances" secured are ever-changing balances. Furthermore, he suggests that restoring equilibrium is not a very smooth process, but is likely to proceed in a kind of oscillating fashion. The counteractivity that is undertaken to correct an undesirable deviation may overdo or underdo the job. This can result in a further deviation from a desired optimum, and the attempted correction itself may demand correction. Nevertheless, with full recognition of the enormous complexity of all of the various equilibria which are interdependent in the functioning of the individual, he maintains that there is a kind of overall, top-level integration which characterizes the human being. Menninger terms this the *vital balance*. He states:

"This is more than three-dimensional thinking; it is thinking in five dimensions. There are external relationships; there are internal relationships; there are the reactions of the one set to the other. Then there is the effect of time and growth; nothing ever remains what it was at the moment it was observed. Thus one has to begin to think in terms of trends and directions and total changing forms. All these are related to the intricate, interrelated balances which go to make up the total picture" [p. 96].

The search for a comprehensive theory of human behavior continues. What has been presented here in no way represents final answers. It will best serve the student as a reminder of unsolved problems in psychology. The theory of homeostasis, the concept of inner biological and psychological needs which exist along a level of "optimum stimulation," and the notion of a general "vital balance" will assist understanding for the time being, provided the student accepts the likelihood that better models of behavior will be constructed in the future.

Summary

1. The theory of inborn, universal instincts was one of the early attempts to work out a system of human behavior. Gradually it became clear that some "instincts" were by no means universal and that, even in animals, there is a complex interplay of maturation and environment. Today it seems more satisfactory to analyze behavior in terms of these two factors than to attempt to explain the behavior by naming it.

2. Freudian theory postulates two great energy repositories, one furnishing the forces for all of man's constructive activities and one supplying energy for destructive behavior. Freud seemed to see life, stripped of all its elaborations, as boiling down to the business of staying alive and carrying on the race, but forever mixed and fused with innate impulses toward destruction and death.

3. The theory of homeostasis refers to self-regulatory processes observed in all living tissues. It is also sometimes applied to human behavior, and the organism seen as carrying on a ceaseless effort to conserve and maintain a psychological "balance."

4. Many psychologists feel that the concept of homeostasis, sometimes called need or drive reduction, oversimplifies the problem of human behavior. They point to the fact that in addition to all of the activities which go into serving the various biological needs, there is much behavior which deliberately seeks danger, novelty, change and exploration. The suggestion has been made that perhaps there exists a level of "optimum stimulation" for each individual, and that it is this level to which the individual seeks to return. If needs are strong and pressing, they need to be reduced. But sameness and monotony constitute a level which is too low and the organism takes steps to remedy the situation by seeking some excitement.

5. Dr. Karl Menninger reminds us that we must not fall into the trap of oversimplifying in using the above concepts. He would have us think in terms of an enormous variety of "balances" which must be

maintained, all interrelated and integrated into a generally characteristic pattern of individual functioning which he terms "the vital balance."

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Chapter 10 MOTIVATION

For the purposes of this text we will use the notion of the human being maintaining intricate, interrelated systems of equilibria, some of them rooted in his physiological makeup, and many derived from his environment. We will think of the general, overall functioning of the individual as his *vital balance*, borrowing the concept from Dr. Menninger. The vital balance would include all of the needs, unlearned and learned, the particular means of regulation which the individual has achieved and the manner in which all this is fitted together to form patterns of behavior characteristic of the individual.

Now let us turn attention specifically to some of the balances which must be maintained, some of the needs which must be fulfilled. A *need* is thought of as an imbalance, a disequilibrium. It produces an inner discomfort which we are calling *tension*. The individual must do something to alleviate the tension. Sometimes, as we have seen, the restlessness is occasioned by monotony and boredom and some mild stimulation is sought. Sometimes there is too much tension and it must be reduced.

Many psychologists prefer to speak of a *motive* rather than a need. They feel that it is not necessary to use the notion of homeostatic regulation, which is, after all, still a theory, if motivation is defined as an *energized condition of the organism which serves to direct behavior toward a certain goal*. By using this operational definition it is quite possible to discuss motivated behavior without hypothesizing basic underlying forces.

We will use the terms interchangeably, since neither does an injustice to the other. In any case, however, the student should be reminded that we are dealing with *constructs*. No one has ever seen a motive or a need. We see behavior which has direction and which is selective—the rush to the dining room at noon. We see eating and signs of satisfaction when the eating is stopped. We then "explain" this

Tension occurs whenever a basic need is threatened.

energized, directed, selective activity which is finally fulfilled by eating by inferring a "something" called *hunger*.

Psychologists tend to agree when they discuss motives which are based on the biological needs of the organism, such as those for food, water, and sleep. The conditions for arousal, the direction and selectivity of the behavior, can be rather firmly delineated. Deprive an animal (or a human being) of water for a period of time and it is safe to predict his restlessness and what he will do when water is made available. Satisfaction or satiation can also be observed. Having drunk his fill, he will stop drinking.

The problem is more difficult when psychological motivation or learned needs are considered. What are the conditions necessary to arouse a need for love? Can the direction and selection of behavior in the grip of such a need be predicted? Is it ever satisfied? There are no neat and tidy answers to these questions. However, certain directed and selective behaviors seem to recur with relatively predictable frequency in our lives. Our society, for example, tends to be highly acquisitive. Most members of our society strive to acquire things, possessions, which have no real biological utility—television sets, summer homes, many suits when one would serve, jewelry, fine silver, thoroughbred dogs, sports cars. We can speculate that some kind of learned motive or need is at work, which, though far less understandable than that for food, nevertheless seems to operate in a similar fashion.

In the discussion which follows we will separate motives into two large categories, those which seem to originate in man's biological nature and those he is presumed to have acquired through interaction with his environment.

Seven Basic Needs

It is common to list seven fundamental needs which are necessary to the survival of the organism. A little thought will quickly supply the list:

1. food
2. water
3. oxygen or air
4. sleep
5. protection from temperature extremes (shelter and body cover)
6. excretion
7. sexual activity

These are sometimes called primary or basic needs because prolonged deprivation of any one (except sexual activity) could result in death. While an individual can continue to exist in the absence of sexual activity, the inner urge toward sexual union is normally strong. Without it human beings would soon become extinct. Therefore, though it has to do with race survival rather than individual survival, sexual activity is included in the "basic seven."

These can also be considered unlearned needs, in that the tensions which result from a deficit seem to be inborn and common to all men. In such case we may have to list an eighth need which also seems to be innate and unlearned. It is the need for exploration or manipulation or, as it is frequently termed, curiosity. We have already had reference to this in the discussion of a possible "optimum level of stimulation." While it is difficult to conceive of actually "dying of boredom," there is considerable evidence that both men and animals seek novelty, are curious and tinker with things for the sheer sake of tinkering. One psychologist suggests that this be termed "effectance motivation," conceiving of it as a kind of urge to master the environment, perhaps originating in some neuromuscular need for exercise.[1]

Results of Deprivation

Most of us have been reared in such fortunate circumstances that we have had few occasions for great concern over satisfaction of the biological needs. We who are well fed, well clothed and well sheltered tend to give our happy lot little thought. This is not true in those areas of the world where hunger stalks and where securing a few morsels for the aching emptiness becomes the chief preoccupation of life. It is not hard to understand the appeal of even a tyrant who promises food to people who have never known a full meal.

For it can be demonstrated that the disequilibrium and resulting tension caused by severe deprivation of any of the basic needs causes a disruption of normal functioning of the organism.

A notable example of this occurred in a study conducted at the University of Minnesota with conscientious objectors as volunteer subjects during World War II.[2] The purpose of the investigation derived from the wartime necessity of dealing with thousands of concentration camp inmates who were known to be starving. Factual knowledge was needed about the effects, both physical and psychological, of starvation in order to determine the best procedures for rapid and effective rehabilitation of these victims.

The group of 36 young men who volunteered for this investigation were to be studied under normal dietary conditions for three months and then placed upon starvation rations for six months.

During the normal diet period, the men were observed to have quite a normal range of interests. They participated in sports; they were interested in their girl friends; they attended movies and read a variety of periodicals and books. A friendly group spirit developed among them, characterized by "smooth temper, patience and good humor."

As the starvation regimen got under way, marked changes in behavior occurred. Physiological activity of the body slowed down as evidenced by a marked decrease in pulse rate and basal metabolism. There was a general slowing of overt movements. They mounted the stairs slowly, often lingering for a long period on one step.

"Food in all its ramifications became the principal topic of conversation, reading and day-dreams." The focus of each day became mealtime, scanty though it was, and the men spent a great deal of time planning ingenious methods for making their food appear to go farther. Although their previous behavior had been cultured and refined, the men under starvation conditions routinely licked every plate. While eating they were silent and morose, crouching over their plates and showing extreme impatience toward any delay in the food service.

The original group spirit disintegrated and the men spent more and more time alone. They became irritable and self-centered. Humor dried up. They became neglectful of personal appearance, failing to shave or brush teeth or comb hair.

They lost interest in their sweethearts, some of them wondering what they ever saw in "that girl." They devoted much time and energy to collecting cookbooks and recipes, and poring over menus. The men themselves marveled at the low ebb of their physical and social existence.

Perhaps the old adage which reads "we do not live by bread alone" should be appended with the statement "except when we cannot get bread!"

In another study subjects were prevented from sleeping. They eventually became disoriented and victims of hallucinations (false perceptions).

Loss of capacity to think rationally is reported by pilots of high-flying aircraft in the event of oxygen deficiency.[3]

It can be suggested, then, that severe limitation placed upon the fulfillment of any one of the primary needs brings about marked behavioral repercussions.

Nurses have many opportunities to observe manifestations of tension occurring in circumstances when a basic need is somehow threatened—the apprehension of a cardiac or asthmatic patient as he struggles for air, the irritability of the infant who is not getting enough breast milk, the petulance of the patient who has spent a wakeful and restless night, the agonizing discomfort of one who is unable to void, the difficulties involved in persuading an obese patient to stick to a restricted diet. And, of course, a great deal of nursing care involves the attempt to supply these fundamental needs. We place the cardiac or asthmatic patient in an oxygen tent. We supplement the inadequate breast feeding. We supply sedatives for those who cannot sleep. We catheterize until the patient is able to resume normal excretion. We endeavor to make the reducing diet as savory and filling as possible.

The Influence of Learning

Although the disequilibrium caused by the need for food, which we call hunger, can be assuaged by a vast variety of edible materials, it is probable that even if quite hungry most of us would reject a dish of fried grasshoppers. Why? This is coveted fare in certain areas of the world. The answer lies, of course, in the fact that we have learned different ways of satisfying our appetites. Although under extreme starvation conditions we might finally welcome a feast of grasshoppers, ordinarily we'd prefer a hamburger.

Each society seems to select, out of the infinite number of possible methods of gratifying these basic needs, certain ones which are learned by its members. They are learned so well, in fact, that we tend to consider our own ways as "right and proper" and the ways of other peoples as exceedingly peculiar. This attitude is called *ethnocentrism*. Its presence can firmly block understanding of the behavior of others. The rudely scornful and condescending behavior of some thoughtless Americans traveling abroad is an example of ethnocentrism in action, leaving a sad trail of ill will and bad feeling in its wake.

The student nurse in today's shrinking world will have many contacts with others whose habits seem strange and alien. Only a deep-seated conviction that other cultures are co-existing and equally-valid patterns of life will enable her to fulfill the supportive and nurturing role which is such a vital aspect of her profession.

With the exception of the needs for air and water which are satisfied at or near the automatic level, learning begins to modify the manner in which the basic needs are secured almost from the moment of birth. Indeed, it would be safe to suggest that many of the "problems" of child rearing center about the necessity for imposing society's precepts and prohibitions upon the natural responses to the basic needs.

In the beginning the child is quite blissfully happy with either breast feeding or bottle. But, in our society, at some arbitrary time we tend to decide that he's "too old now" for that mode of feeding and that he must learn to drink from a cup. Because frequently the child protests the substitution, *weaning* is often considered one of the earliest "problems" of child rearing. Then, again at what is essentially an arbitrary time-point in his existence, it is decided that his excretory habits should become more civilized. So we require that the child restrain his response to the internal stimuli until he reaches the particular "proper" spot for release. Slowly but surely he learns. He learns that the hands of the clock dictate "bedtime," that there is a ritual of taking off certain clothes, bathing or cleaning up and donning other garments in preparation for sleep. He learns that clothes are never shed in public places. Few families escape the amusing sight of their chubby one or two year old parading up and down the sidewalk in his "natural born skin," or fail to take immediate steps to teach the youngster the error of his ways. He's taught that certain foods are good for you and others will harm your teeth, that waste products of the body are filthy and repulsive, that you can't have dessert until you clean up your plate, that certain words and phrases connected with sex are absolutely taboo.

Had he grown up in another society the child would have learned other practices and attitudes with regard to the basic needs, but inevitably each society teaches its own rules and customs as a part of the early socialization of the child.

Survival of the organism, therefore, is dependent upon at least a minimal fulfillment of the basic, biologically derived needs. A severe threat to any one of these seems to bring about drastic changes in the "normal" functioning of the organism, as if all else were put aside in the effort to restore equilibrium.

Each society has developed a multitude of habits, customs and attitudes which it considers "right and proper" with regard to the "what, how, when and where" of basic need satisfaction. These are learned by the child, for the most part in his early years, becoming part of his "of courses," and each society copes in its own way with the problems of child rearing incurred during this process of socialization.

Psychosocial Motivation: Secondary Needs

It is apparent that life would be conducted on a very primitive level if the biological needs were man's only concern. It is difficult to imagine such a state of existence, an each-man-for-his-own-survival type of world with brute force as its only rule.

Even the most rudimentary of human societies, however, finds it necessary to evolve standards of conduct which make for at least a minimum security among its people. These standards are transmitted from person to person as values, as customs, as sanctions. They are incorporated into the individual's behavior-system as needs. The more complex the society, the more elaborate and complex the needs of its members.

The needs acquired through association with the important "others" in our lives become dynamic forces underlying behavior. They are frequently termed *secondary needs*. Sometimes they are called the *psychosocial needs*, since they are learned through the affiliation of the individual with society and since they are instrumental in determining patterns of thought, attitudes and habitual modes of response in a particular society.

Many attempts have been made to compile lists of secondary needs and there have been a number of efforts to arrange these needs in order of importance. This is not a very fruitful endeavour. Not only do the secondary needs vary from society to society, but also many of the needs which predominate in a particular "life style" are unique to the individual, arising from his own especial life history.

The descriptions which follow, then, represent an arbitrary selection of but a few of the many secondary needs. From these it may be possible to gain a general picture of how such needs are acquired and how they operate in our own lives.

The Need for Love or Security

The English language, it should be noted, is somewhat deficient in words to describe a wide variety of affectional relationships. We want to describe now a complex feeling of trust, of warmth and understanding, of closeness, intimacy and emotional give-and-take. The best word at our disposal is *love*. Because common usage tends to associate this word with romance, we shall use it with the reminder that in this context the meaning is much broader than the popular "moon, June and you" connotation.

There is some provocative evidence that the need for love (or for security, as it is sometimes described) might well belong on the list of basic needs—that perhaps survival itself is involved. Let us examine this possibility in some detail.

It is obvious that the human infant is wholly dependent upon the

TLC 20 min. t.i.d. may be as important as milk for a baby.

good will of someone apart from himself if he is to live at all. He must be fed, protected from extremes of temperature and changed periodically. If utterly neglected, he will die. But it can be suggested that merely attending to baby's physical needs is not enough. Something more is necessary.

Less than fifty years ago many infants were afflicted with a mysterious ailment called *marasmus* which, in Greek, means "wasting away." It was an extremely puzzling disease because in spite of sufficient food and bodily care, the infant simply failed to thrive. Unless the malady could be interrupted, it eventually resulted in death.

Although no infant seemed completely safe from this affliction—it could occur in the homes of the very rich as well as the very poor—it was noted that most cases were found in institutions such as hospitals and foundling homes where the harassed attendants had little time to do more than see that their charges were fed on schedule and kept fairly clean and dry. Gradually it was discovered that the course of marasmus might be halted if someone could be persuaded to pick up the infant and "mother" him periodically—rock him, sing to him, stroke his head and body, cuddle and caress him. This is the origin of the doctor's order which, as a nurse, you may have occasion to carry out during your nursery or pediatric service: "TLC 20 min. t.i.d."—"Tender loving care for twenty minutes three times a day." If the physician feels that an infant is not thriving properly, he is likely to instruct the nurse to "mother" the baby regularly every day as a routine part of his care.

In this connection it is interesting to note an ancient account of marasmus which was the unexpected effect of an experiment conducted by Frederick II in the thirteenth century:

> He wanted to find out what kind of speech and what manner of speech children would have when they grew up if they spoke to no-one beforehand. So he bade foster

> mothers and nurses to suckle the children, to bathe and wash them, but in no way to prattle with them, or to speak to them, for he wanted to learn whether they would speak the Hebrew language, which was the oldest, or Greek, or Latin, or Arabic, or perhaps the language of their parents, of whom they had been born. But he laboured in vain because the children all died. For they could not live without the petting and joyful faces and loving words of their foster mothers. And so the songs are called "swaddling songs" which a woman sings while she is rocking the cradle, to put a child to sleep, and without them a child sleeps badly and has no rest.[4]

Modern evidence concerning the need for love and the sad effects in case of its deficiency is not lacking. Dr. Rene Spitz has produced a haunting film entitled "Grief" which documents the results of lack of "mothering" in the lives of 97 infants in a South American foundling home. Overcrowded conditions in the institution made impossible any individual attention to the infants beyond routine feeding, bathing and changing. The pictures show three month old infants who have lost their appetite, who lie inert, failing to show any sign of response to the attendant. By the age of five months the "wasting away" process has set in with alarming acceleration. The babies look weary and expressionless, like grotesque caricatures of wrinkled old men. The vibrant interest in the world which characterizes normal infants of this age is totally absent. It is as if the spark of life had long since flickered out, leaving only a sorrowful physical shell. Twenty-seven of these children died during the first year of life, seven more during the second. Twenty-one, who remained in the institution but managed to survive, showed such a drastic crippling of their emotional lives that it is doubtful if they could ever be classified as other than hopelessly mentally ill.

Dr. Margaret Ribble describes in the following manner the case of "little Bob" who was placed in a hospital at the age of one month by a mother who did not want him.

> In spite of careful medical attention and skillful feeding, this baby remained for two months at practically the same weight. He was in a crowded ward and received very little personal attention. The busy nurses had no time to take him up and work with him as a mother would, by changing his position and making him comfortable at frequent intervals. The habit of finger sucking developed, and gradually the child became what is known as a ruminator, his food coming up and going down with equal ease. At the age of two months he weighed five pounds. The baby at this time was transferred to a small children's hospital, with the idea that this institution might be able to give him more individualized care. It became apparent that the mother had abandoned the child altogether.
>
> When seen by the writer, this baby actually looked like a seven months' foetus, yet he also had a strange appearance of oldness. His arms and legs were wrinkled and wasted, his head large in proportion to the rest of his body, his chest round and flaring widely at the base of an enormous liver. His breathing was shallow, he was generally inactive, and his skin was cold and flabby. He took large quantities of milk, but did not gain weight since most of it went through him with very little assimilation and with copious discharges of mucus from his intestines. The baby showed at this time the pallor which in our study we have found typical of infants who are not mothered, although careful examination of his blood did not indicate a serious degree of anemia. He was subject to severe sweating, particularly during sleep. A thorough study showed no indication of tuberculosis. The child's abdomen was large and protruding, but this proved to be due to lax intestinal muscles and

> consequent distention with gas and to a greatly enlarged and distended liver, which was actually in proportion to that of the foetus. There was no evidence of organic disease, but growth and development were definitely at a standstill, and it appeared that the child was gradually slipping backward to lower and lower levels of body economy and function.
>
> The routine treatment for this hospital for babies who are not gaining weight is to give them concentrated nursing care. They are held in the nurses' laps for feeding and allowed at least half an hour to take the bottle. From time to time their position in the crib is changed and when possible the nurse carries them about the ward for a few minutes before or after each feeding. This is the closest possible approach to mothering in a busy infants' ward. Medical treatment consists of frequent injections of salt solution under the skin to support the weakened circulation in the surface of the body. With this treatment the child began to improve slowly. As his physical condition became better, it was possible for our research group to introduce the services of a volunteer 'mother' who came to the hospital twice daily in order to give him some of the attention he so greatly needed. What she actually did was to hold him on her lap for a short period before his 10 AM and 6 PM feedings. She was told that he needed love more than he needed medicine, and she was instructed to stroke the child's head gently and speak or sing softly to him and walk him about. Her daily visits were gradually prolonged until she was spending an hour twice a day, giving the baby this artificial mothering. The result was good. The child remained in the hospital until he was five months old, at which time he weighed nine pounds. All rumination and diarrhea had stopped, and he had become an alert baby with vigorous muscular activity. His motor coordinations were of course retarded. Although he held up his head well and looked about, focussing his eyes and smiling in response to his familiar nurses, he could not yet grasp his own bottle or turn himself over, as is customary at this age. The finger sucking continued, as is usually the case with babies who have suffered privation.
>
> In accordance with the new hospital procedure, as soon as the child's life was no longer in danger, he was transferred to a good, supervised foster home in order that he might have still more individual attention. Under this regime, his development proceeded well and gradually he mastered such functions as sitting, creeping, and standing. His speech was slow developing, however, and he did not walk until after his second year. The general health of this child is now excellent at the end of his third year, also his "I.Q." is high on standard tests, but his emotional life is deeply damaged. With any change in his routine or with prolonged absence of his foster mother, he goes into a state which is quite similar to depression. He becomes inactive, eats little, becomes constipated and extremely pale. When his foster mother goes away, he usually reacts with a loss of body tone and alertness, rather than with a definite protest. His emotional relationship to the foster mother is receptive, like that of a young infant, but he makes little response to her mothering activities except to function better when she is there. He has little capacity to express affection which he so deeply needs. Without the constant friendly explanations of the situation from the visiting nurse, she would probably have given up the care of the child.[5]

Dr. Harry Bakwin sums up the symptoms of deficient mothering with this statement:

> Infants under six months of age who have been in an institution for some time present a well-defined picture. The outstanding features are listlessness, emaciation and pallor, relative immobility, quietness, unresponsiveness to stimuli like a smile or coo, indifferent appetite, failure to gain weight properly despite ingestion of diets, which, in the home, are entirely adequate, frequent stools, poor sleep, an appearance of unhappiness, proneness to febrile episodes, absence of sucking habits.[6]

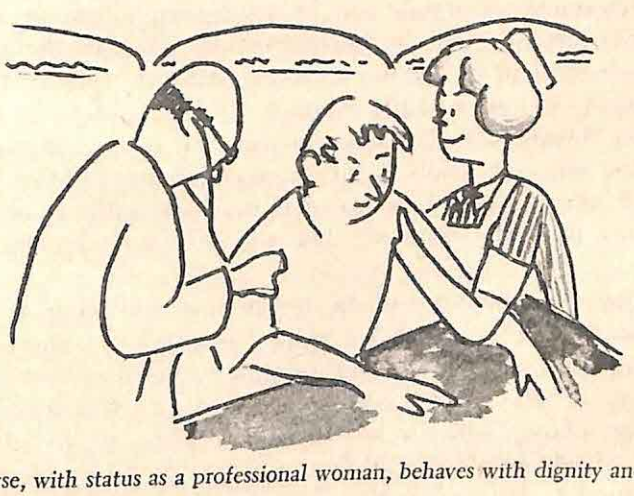
These are dramatic descriptions of extreme cases, of course. While it should not be taken that good mothering necessitates constant solicitous hovering over baby, it can nevertheless be suggested that each of us begins life with a deep-seated need to be loved as well as cared for physically, and that the absence of love produces marked physical and emotional effects.

The Need for Status and Recognition

Closely allied to the need for love (in the broad sense in which we have been speaking of it) are the needs for status and recognition. *Status* simply refers to one's "place in the sun"; it is our place in society accorded us by virtue of our age, sex, vocation or profession or socioeconomic standing. When we carry out the obligations and behavior required of a status, we are said to be performing a *role*. Thus the young married woman, having acquired a new status, behaves quite differently from the way she did before her marriage. Her new role requires, among other things, that she be circumspect in her behavior toward men other than her husband. The teen-ager, in keeping with his status, is expected to act more like an adult and to put much of his childish behavior behind him. The nurse, with her status as a professional woman, is taught from the beginning of her student days to conduct herself with dignity and poise.

Status, of course, is meaningless without recognition. *Recognition* can be thought of as the eyes and ears of society. It is the acceptance, the approval of society accorded those who perform in keeping with their status roles.

Although America is generally considered to be a classless society, sociologists tell us that, even here, statuses tend to be arranged in a kind of hierarchical order. Certain statuses have more prestige value than others. The status of a physician is higher on the scale of prestige than that of the shoe clerk. In addition to needing the general approval of



The nurse, with status as a professional woman, behaves with dignity and poise.

those around us, we also tend to aspire to a higher status. Advertisements in our magazines and newspapers, over television and on radio reflect this tendency. Men of distinction and beautifully growned women are depicted using this or that product, with the obvious implication that if the reader will but use the product, he too can enjoy a status similar to the person in the photograph. The society page editors of our newspapers know that most of us get a vicarious pleasure out of reading about the activities of those whose status is higher than our own, and so the parties and social affairs of "high society" are described in great detail.

We do not have aristocratic titles in America to help identify status and status rank. Instead, we tend to award our highest praise and recognition to an indefinable something called *success*. The pressures to succeed, to achieve, to excel begin very early in our lives. His mother smiles with approval when the scribblings of the preschooler begin to be recognizable as a human figure or object. Each step the child takes toward mastery—of sitting and walking, of shoe laces, of the tricycle—is greeted with fresh enthusiasm. When he enters school, he is urged to stay at the top of the class or near it. Later, athletic achievement is rewarded with high status, as is social success or popularity.

Because these pressures are "built into" all of our lives, as it were, the *symbols* of success take on importance. A *symbol* is something which stands for something else. Thus, the words you are reading are symbols. You cannot sit on or write on the word "desk" but, by common agreement, that particular arrangement of lines and curves stands for the object which we lean on or write upon—a desk.

By the same token, we have certain commonly agreed upon symbols of success. Most prominent of these are money and possessions. Money, in and of itself, is quite useless. You cannot wear it or eat it but, by common agreement, it stands for, or represents, a certain amount of work or achievement. Also, by fairly common consent, the more of it, the more achievement or the more success. And so, some of the striving for more money and more of the things it will buy tends to be in terms of our need for status. A small and inexpensive car is as utilitarian as a big one—but the big one, symbolic of success, enhances status. The small cottage will serve as well as a mansion the basic purpose of protecting its occupants from the elements, but the mansion represents a higher status.

Symbolic representations of our needs come to occupy an important place in our lives. The fact that a symbol is a sign of some deeper need is frequently unrecognized. One very common symbol of love or affection, for instance, is food. We probably learn to associate food with love during early infancy when a loving mother feeds us. In later life, we invite our friends to dinner. When someone is to be honored, he is given a banquet. Eating together becomes a sign of good fellowship.

Food frequently assumes an exaggerated importance in the life of a hospital patient, not only because illness creates vagaries of appetite, but because it may serve as a symbol of the kind of care the patient feels he is receiving. Many a complaint about the hospital tray can be translated by an understanding nurse as an indirectly expressed wish for more attention. Occasionally we may be able to recognize the use of food as a symbol of love in the case of an individual who eats excessively. Such an unhappy one is caught in a vicious circle because the more obese he becomes, the more unloved he feels, and therefore the more he eats. A reducing diet, in this instance, is not likely to be effective unless attention is also given to the underlying need for love.

It is obvious that there are a number of conflicts which arise as we seek to satisfy our need for status and recognition. Sometimes conflicts occur in the roles we play to maintain status. The role of homemaker may interfere with one's dreams of a career. The teen-ager sometimes finds that the role he plays at home and the role he plays with his friends are quite different and frequently in opposition.

Occasionally we face difficulty because the status we long for is beyond our reach. The boy who has his heart set on medical school, but who lacks the necessary intellectual capacity; the singer of mediocre talents who is convinced she could have done grand opera if she had just received a "break"; the discontented wife who is forever comparing her husband's pay check with "what George makes"—these individuals and others like them may be storing up trouble for themselves if they refuse to face up to and live with the facts.

Because some statuses are accorded greater group approval than others, there is a widespread tendency in our society to aspire to higher status, to "better ourselves." The possibility of moving to a higher status is characteristic of our society, in contrast with other more static societies. However, it should be recognized that hitching your wagon to a star may create discontent and unhappiness as well as progress. Certainly there is no wisdom in regarding life as a total failure because you haven't reached some long-dreamed-of pinnacle. And certainly, whatever our long-range goals, we should not neglect enjoyment of small day-to-day successes, the lesser stepping stones of achievement.

Still another source of difficulty may come with the changes of status which occur during our lifetime. Much of the turbulence of adolescence can be traced to the difficult transition between childhood and adulthood. The mother whose children have grown up is likely to feel that her new status means that her usefulness is over, that she has been "put on the shelf." The same melancholy may accompany the time of retirement for the hard-working business man. All of the bad jokes about marriage as a "ball and chain" reflect the fact that many a bachelor finds his new status as head of a household not without problems.

The Need for Self-development

This need has been described in a variety of ways. Some writers refer to it as the need for "mastery." Others have called it the need for "self-assertion" or for "self-fulfillment" or the need for "self-enhancement." Pointed up in all accounts is the fact that out of the complicated, interwoven matrix of responses and attitudes toward the individual, he gradually acquires a *self concept,* a picture in his head, as it were, of who and what he is and what he can do. Though the self concept may eventually incorporate many aspects of the status accorded by society, this sense-of-the-self is a much more complex, subjective, internalized composite. It is the "I" which emerges slowly as the infant begins to perceive his own separateness from the world around him and as he becomes aware of how others feel about him.

Accompanying this gradual awareness of the self-as-an-individual is the tendency to exercise its powers. This is such a notable feature of childhood that some writers suggest the possibility of an inner "growth principle"—an innate need to strive, to seek, to struggle toward full stature as an independent, self-sufficient individual.[7] Such a view would attribute the need for self-development to basic inner processes inherent in man's nature. One is reminded of the concept of "effectance motivation" discussed under basic unlearned needs.

However, the role played by reinforcement here might also suggest that the need for self-development is one which is learned. The child's struggles to creep, to stand, to walk and to master his environment are usually remarkably well-rewarded. The child achieves not only the satisfaction of accomplishment, but, ordinarily, the approval and encouragement of those around him.

Thus, he coos and babbles and "plays" with the sound of his own voice, while the important adults in his life delightedly imitate the noises he is making. We are assured by experts in language that this "practice" in making sounds is necessary for the acquisition of language. Sooner or later he will pronounce a sound which is interpreted by the adults as meaningful. Baby says "da" and daddy turns himself inside out with excitement. The momentous effect of this sound is not lost on baby. He is quick to note that singular responses from the long-trousered-one are brought about each time he utters "da."

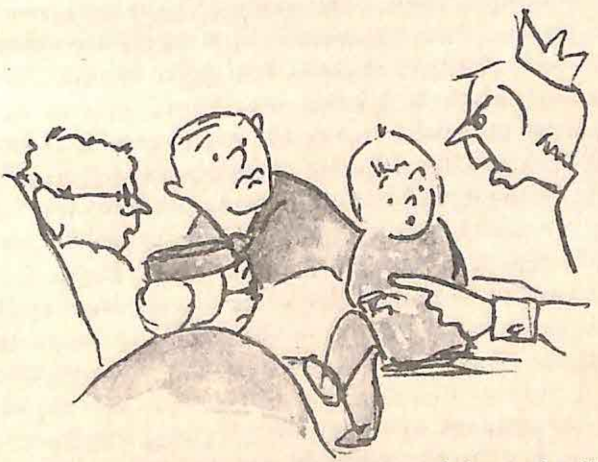
Development of language ability brings large rewards both in mastery of the environment and from the responses of others. It is small wonder that use of language tends to be more advanced in children coming from homes where language is best appreciated and esteemed.

Acquiring the ability to communicate with words is but one example of the child's pressing need for mastery, for advancing his powers. It may very well be that the attempt to delineate this need apart from that for love and recognition is somewhat artificial, since both are entwined in the outcome. Watch the toddler laboriously building a tower of blocks. The shaky structure is intrinsically rewarding in terms of sheer accomplishment, but watch, too, the little one's bid for approval. "Look, look," he shouts, running to the kitchen to get mama to view his masterpiece. Note how crestfallen he becomes if mother gives him only cursory attention or if big brother insists "Hey, I can build a better one!" and proceeds to do so. Watch the kindergartener proudly exhibiting the drawings she has brought home, or the six-year-old calling the entire family to watch him ride precariously on his two-wheeled bike. Accomplishment brings a large measure of self-satisfaction to the doer, but also important is the applause of others.

The child whose needs in this area are thwarted is likely to be badly handicapped in later endeavours. If his small achievements have been ignored or criticized severely he is likely to acquire a picture of himself as one-who-fails, thereby robbing even his own pride in doing.

The implications here seem plain. A personal feeling of worth, garnished by the approval and respect of others, will be well served by the attempt to acquire real proficiency in the activities we undertake. Furthermore, an understanding of this need should enable us, in dealings with others, to refrain from the thoughtless, unfeeling remarks which might undermine another's self-esteem. This rules out destructive criticism, disparagement, shame and humiliation as techniques in interpersonal relationships.

In a few short years the student nurse is likely to find herself placed in a supervisory position of one kind or another. Then it will become her responsibility to oversee the performance of those serving under her. Such



Hospital rules can be explained cheerfully to relatives and patients.

authority will be most effective if necessary criticism of deficient performance is tempered with ready praise when the individual does well. The maid, whose carelessness in passing trays must be corrected, can be instructed privately, with the cheerful assumption that the incident is now closed and that she will do better in the future. The visitor whose humor is too robust for the subdued hospital atmosphere may need only a gentle reminder. The reasons for enforcement of hospital rules can be explained to relatives of patients and their cooperation enlisted rather than compelled. In any case that authority is best which is utilized as a means of helping others live up to the best in themselves—which entails understanding of and attending to the need for self-development which exists in all of us.

Unconscious Needs

Complicating the idea of needs as the forces underlying behavior is the fact that we are not always aware of the needs which impel activity. Much behavior is caused by deep inner needs which are not recognized by the individual himself. These needs are described as *unconscious.*

The concept of unconscious determiners of behavior was a key component in Freud's view of human personality. The idea that behavior often expresses a "secret" mental life which is hidden even from the individual himself did not originate with Dr. Freud, however. This phenomenon is described in most of the enduring literature of the world.

The myths of ancient Greece, for example, often depict their immortal and mortal heroes carrying out actions which do not arise from rational, deliberate decisions. Atalanta, who races with her suitors and causes each one outdistanced to be put to death, feels a pang of pity for Hippomenes. So we are not surprised that she should lose this race. In the story, you will remember, the goddess Venus has given Hippomenes three golden apples which he releases at strategic moments during the contest. The swift Atalanta slackens her speed in order to pick up an apple and is vanquished. In another story Cupid mischievously turns his love-inciting arrow on Apollo and that powerful god "who gives all oracles to the world" behaves like a foolish schoolboy over the nymph Daphne. Sudden fright without visible cause was ascribed by the Greeks to the deity, Pan. (This is the derivation of our term "panic.") Though attributing these influences on behavior to supernatural forces (i.e., the intervention of Venus or Cupid or Pan), the Greeks were apparently quite aware that behavior is not always what it seems to be on the surface.

The concept of unconscious motivation is often a difficult idea for the beginning student to comprehend or accept. We are so accustomed to thinking of ourselves as self-aware, choosing, thinking, selective, rational individuals that the possibility of behavior caused by forces of which we know nothing seems nonsensical or mysterious or, perhaps, even a little frightening. Perhaps it will be more understandable to think in terms of *levels of awareness.* Much of our behavior takes place semiautomatically, without our giving it full attention. When you first learned to drive a car it was a complicated business of levers and knobs and pedals. Now the operation is almost unthinking; the car is started, backed out of the garage, brought to a halt for a traffic light with attention to traffic but little consciousness of the actual procedures involved. Other forms of behavior demand even less self-awareness. You could get ready for bed while carrying on an uninterrupted conversation with your roommate, never once having to remind yourself that now it is time to take off the shoes or now it is time for removing hose.

Granting levels of awareness or unawareness of behavior, it would not seem illogical to assume the same gradations for motivation. Some of the motives for behavior were learned long ago and have literally been forgotten. Some motives were acquired before we had adequate use of the language, so there are no words to describe them. Some are not admitted, even to ourselves.

Far from being frightening or mysterious, the existence of unconscious motives helps to make a great deal of behavior understandable. Take eight year old Robbie who was discovered taking a small charm bracelet from the teacher's desk. He and his bewildered parents are at a loss to explain his behavior. Robbie has never been in trouble before and he is quite truthful in insisting that he doesn't know why he suddenly wanted the bracelet or what he intended to do with it. At the child guidance clinic, however, the story unfolds slowly. Robbie's mother and father have little time for him. They have certainly "done their duty" in seeing that he has been taught to mind his manners and do his homework and help around the house. But the preoccupations of father with getting ahead on the job and of mother in keeping the home spic and span have made of life a pretty grim business with no room left over for fun together or simple enjoyment of each other. Robbie turned to his teacher for the affection he needed so badly. Teachers, however, are hard pressed with the necessity of attending to an entire roomful of youngsters. On the morning of the theft, Robbie's teacher had been short-tempered with him. The "reason" for the strange behavior of this little boy now becomes evident. Feeling deprived of the love he needed because of the scolding, Robbie was taking a small "part" of the teacher who had failed him. He was helping himself to love symbolically by means of the bracelet cherished by his teacher. And since he was wholly unaware of the need underlying the seemingly inexplicable act, we describe the need as an unconscious one.

The needs which lie below the level of awareness, then, are known to have profound influence on behavior. As we seek to understand why people behave as they do, it should be remembered that unconscious needs, as well as needs which are recognized, often form the basis for our actions.

The Hierarchy of Needs

Before leaving the discussion of needs, it might be profitable to consider one stimulating theory regarding their relative importance.

Dr. A. H. Maslow has suggested that human needs might be thought of in terms of a hierarchy as follows:[8]

First level: Physiological needs

Second level: Need for safety (bodily preservation)

Third level: Need for love

Fourth level: Need for self-respect and social respect (status and recognition)

Fifth level: Need for achievement (creativity, mastery, self-development)

Dr. Maslow feels that man proceeds to satisfy his needs in the order indicated by the hierarchy, and that, until the first two levels are assured, he cannot be concerned with higher aims. In other words, when the needs which have to do with basic survival are threatened, the need for love is abated. We are reminded in this regard of the study of the group undergoing food starvation.

After the needs on the first three levels are satisfied, Maslow suggests that men are freed to seek fulfillment of the need for self-respect and group acceptance. Only after the needs of the first four levels are relatively secure does man become creative and concerned with self-development, according to this theory. Dr. Maslow's interesting idea implies that under conditions of perpetual scarcity or war or natural disaster higher level needs are postponed or foregone.

Summary

1. The term "need" tends to be used in connection with the theory of homeostatic forces underlying behavior. It refers to an imbalance or disequilibrium. It produces an inner discomfort, called tension, which the organism seeks to alleviate.

2. A motive is an energizing condition of the organism which serves to direct behavior toward a certain goal. The terms will be used interchangeably in this text.

3. A motive or a need is a construct, used to explain observed behavior. Ideally, we should be able to detail the conditions under which it is aroused, the direction of the behavior and the goal or selectivity of the behavior and we should see signs of abeyance of the behavior when

satisfaction is reached. These conditions can be met with regard to those motives which originate in tissue needs. The problem is much more difficult with regard to psychological needs which have been learned.

4. Physiological motives, sometimes called primary needs, or basic needs or survival needs are for food, water, air, sleep, protection from temperature extremes, excretion and sexual activity. Sometimes an eighth is listed—that for manipulation or curiosity or effectance.

5. Extreme deprivation of any of these results in a disruption of normal functioning. Learning plays a large part in determining the "what, when and where" of basic need satisfaction.

6. Psychosocial motives, sometimes termed secondary needs, are considered to have been learned. Some are held in common by members of a society or group, others are unique to the individual—a product of his particular learning circumstances.

7. The need for love, for status and recognition and the need for self-development are examples of psychosocial motives.

8. Unconscious motivation refers to motives which the individual cannot report or describe. We should be aware that such motivation exists for each of us.

9. A "hierarchy of needs" has been proposed by Dr. Maslow. He suggests that only after needs for survival, safety and love are met can man look for self-respect and group acceptance, and thereafter be able to achieve and create.

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Chapter 11 EMOTIONS AND HUMAN BEHAVIOR

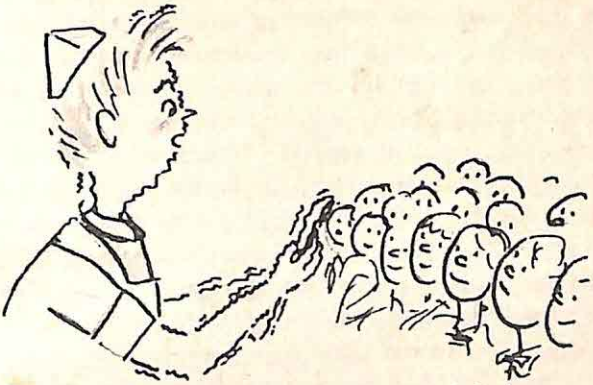
John was driving the car along without a care in the world. Suddenly, over the crest of a hill two cars approached, one in the left hand lane and the other recklessly attempting to pass. In the split second before a head-on collision became inevitable, John managed to swerve his car sharply over to the shoulder of the road, permitting the three cars to pass abreast safely, and then guided the vehicle back into the highway. His action had been deliberate and coolly calculating, but suddenly, although the danger was averted, he began to tremble violently. He was forced to turn off on a side road and bring his car to a stop while he attempted to control a feeling of absolute panic. Perspiration ran off his forehead. His hands became cold and clammy and his mouth felt parched.

After months of waiting and steeling herself against possible disappointment, Betty learned that she had been awarded the coveted scholarship. Suddenly she felt light-headed and giddy. She had to sit down to keep for falling.

Mary Ann looked at herself in the full length mirror. She twirled and the skirt billowed gracefully. Oh! The gown was perfect—absolutely perfect! She felt exhilarated, as if dancing on air. The excitement brought a sparkle to her eyes and a flush to her cheeks.

Jane wakened with a dull feeling of despair. She dressed with clumsy fingers that did not seem to obey her bidding. Breakfast stuck in her throat and the few bites she managed to get down seemed to remain in one heavy indigestible lump. The kitchen clock ticked with an unbearable loudness, every second bringing the dreaded examination nearer.

Pete stiffened as the foreman called his name sharply. He could sense that the others looked up from their tools expectantly, grinning a little—Old Man Brown was going to let Pete have it again. The flush



Emotion is a combined physical and psychological state.

which began at the base of his neck extended slowly up to his hairline. He clenched his hands into a fist so tight that the knuckles showed white. The tirade launched by the foreman fell on deaf ears, drowned out by the hammering of the pulse in Pete's temples. Pete vowed mentally that some day he would beat the foreman into a pulp.

Here we have descriptions of five individuals and their responses to five different situations. What is it that distinguishes these responses from behavior in such an ordinary situation as an uneventful drive in a car or sitting down to a commonplace breakfast?

The responses are characterized, first of all, by physical manifestations. Under ordinary circumstances we do not tremble, perspire excessively, flush or find our food unpalatable.

The responses are also accompanied by psychological manifestations which, for want of a better word, we call "feelings." The combined physical and psychological state is termed an *emotion*.

In this chapter we shall take a look at man and his emotions, attempting to discover how emotions figure in the problem of human behavior.

Emotions and Motivation

We have discussed human behavior in terms of the motives or needs that energize the individual, directing his behavior toward a certain goal. We noted that certain needs are fundamental, having to do with survival itself. These we share with all mankind. In addition, each of us learns to strive for fulfillment of a multitude of secondary needs. Some needs characterize entire groups of individuals because of similar conditions of learning. Thus, in our own culture, most of us learn to value attainment of success and prestige. Other needs are unique to an individual because of circumstances in his own life history. A now-prosperous businessman lost his father while very young. The widowed mother had great difficulty in making ends meet for her large family, so his childhood was marked by considerable anxiety over making the one pair of shoes last another few months, turning off all lights early in order to reduce the electric bill and whether there would be enough food to go around. Now, he reports (with a smile at himself) that he obtains great satisfaction from contemplating his closet well filled with shoes, having his home a blaze of light and putting away the groceries after shopping, assuring himself that everything is in good supply.

To assist in thinking about the operation of needs, the concept of homeostasis was introduced. We conceived of the individual as continually seeking to conserve and maintain his own "vital balance." A need, such as that for food or for change from monotonous conditions, disrupts the equilibrium, whereupon the organism attempts to right the balance. His behavior becomes directed toward a certain goal. If the goal is attained, the behavior subsides, temporarily at least. We term this motivated behavior.

With this brief résumé, we are ready to fit emotions into the picture.

First, the arousal of motivated behavior is accompanied by physical and psychological changes which we have defined as emotion. The emotional aspects of hunger, for example, are well known. Many a family learns not to bother Dad with requests for money or the family car before he has had his supper. Strong and pressing needs are associated with strong emotion. Think of the almost unbearable excitement with which you waited for the moment of opening Christmas presents as a child.

Second, emotions also color the ongoing motivated behavior. There is a feeling of elation as successful steps are taken to reach a goal, or a feeling of annoyance if the task seems too difficult. Someone reports, "Fried chicken for supper tonight!" and you feel a pleasant glow of anticipation as you walk along the hall to the dining room. An author may despair many times before his novel reaches completion.

Third, there are emotions which attend the reaching of a goal or satisfaction of a need—the feelings which come of receiving a good grade, winning a difficult tennis match or solving a problem. On the other hand, failure to attain our ends may add feelings of rage or disappointment to the emotions of aroused motivation.

Fourth, emotions themselves can serve as motives or needs. Once an emotion has become firmly attached to an object or situation, it can direct behavior toward selective goals. If you have a strong fear of riding in airplanes, it may be safely predicted that you will travel by foot, car, train or boat. If you love the color and excitement of football games, you will hardly stay home when you have a chance to go.

Emotions, then, are directly related to the arousal of a need, to the behavior through which we seek to fulfill it and to our success or failure in reaching that goal. Emotions can also operate as motives, serving as instigators of goal-directed behavior.

Physiological Aspects of Emotion

Have you ever performed at a piano recital or stood in front of a class to speak and suffered from stage fright? If so, you are well aware of some of the bodily changes which take place during emotional stress. There is the queasy feeling, the dryness of mouth, the pounding of one's heart, the trembling of hands and knees—all familiar symptoms to those of us who quake at the thought of a public appearance.

The changes which take place in the body when one is emotionally aroused are profound and widespread. A list of some of these may serve to point up the far-reaching physiological effects of emotion.

1. Increase in heart rate. This is one of the most familiar symptoms of emotion and probably accounts for the use of the heart as a symbol of emotion.
2. Blood pressure rises. The increased heart rate causes a rise in blood pressure. Other changes take place in the distribution of the blood; in general, a greater volume is made available to the lungs and muscles, while the internal organs receive less. The flushing of the face and neck during anger and blushing when embarrassed result from these changes in blood pressure and circulation.
3. Changes in blood composition. The amount of blood sugar, the acid-base balance and the epinephrine content of the blood are all known to undergo significant changes.
4. Respiration increases. Both the rate and the depth of breathing accelerate.
5. Gastrointestinal changes. Peristaltic movements of the stomach and intestines may cease and the flow of digestive juices, including saliva, decreases. This accounts for the common feeling of dryness of mouth, of being "sick to the stomach," and lack of appetite during emotion.
6. Pilomotor response. This is the technical term for the phenomenon we describe by saying "his hair stood on end." It also causes "goose pimples" as the small hairs of the skin rise.
7. Pupil response. The pupil of the eye tends to dilate.
8. Muscle tension and tremor. Muscle tonus is increased. Tremor ("knocking of the knees") often occurs when opposing groups of muscles are contracted simultaneously, and sometimes indi-

cates conflict, as when one both wishes to remain on the stage and yet longs to run away.

9. Increased perspiration. Sometimes we say "He was covered with a cold sweat" to describe the increased flow of perspiration during emotion. Many psychotherapists make a practice of shaking hands with an incoming patient, not only as a gesture of friendliness, but because the presence or absence of perspiration on the palm gives a quick and rather reliable indication of the degree of emotional tension under which the patient is laboring.
10. Galvanic skin response. When emotion occurs, there are minute, detectable changes in the electrical properties of the skin. These can be recorded and measured by means of an instrument called a "galvanometer." It is attached to the skin, usually the palms of the hands, by means of electrodes. A swing of the needle indicates a galvanic skin response (frequently abbreviated GSR). The GSR is a sensitive indicator of changes in emotional state.

A second glance at this list of bodily changes during emotions is likely to suggest what the great physiologist Cannon termed the "emergency" function of emotions. Cannon noted that the physical aspects of such emotions as anger or fear seem designed to help the organism survive in case of danger. The increased heart rate, blood pressure and breathing, for example, make available an increased supply of oxygen for strenuous muscle activity. The blood composition changes make more sugar available for quick energy and cause ready clotting in case of injury. The blood is taken from the digestive organs and distributed where it is most needed—digestion can continue when the emergency is over. The pupil response produces greater keenness of vision. The increased prespiration will carry away waste products of intensive muscle action. One can well imagine the survival value of these changes to our primitive ancestor. When confronted with a saber-toothed tiger, he was enabled to put forth remarkable efforts. For this reason Cannon's emergency theory is sometimes called the *Fight or Flight* theory.

The fact that physiological changes occur during emotion and that these changes can be recorded has been turned to practical advantage in the use of the *polygraph recorder*, more usually known as a "lie detector."

The lie detector is based on the theory that a person who has committed a crime will be apprehensive and will involuntarily make emotional responses to stimuli (questions or words) related to the crime. Usually a "base line" of responses to neutral questions is established which can then be compared to any changes which result from the key questions about the circumstances of the crime. The polygraph records simultaneously the subject's words, blood pressure, rate of respiration and GSR. Thus, it does not detect lies as such, but simply picks up the emotional twinges which depart from the subject's base line functioning. In the hands of a skilled technician the pattern of emotional changes accompanying the key questions can be read with considerable success to indicate guilt or innocence.

Emotional Development: Maturation and Learning

Now let us look at emotion from another angle—shift perspective, so to speak.

A list of all human emotions would rapidly grow to be a very long one. Joy, sorrow, delight, fear, anger, irritation, exasperation, hilarity, love, apprehension, jealousy, despair—human beings have a vast range of emotional possibilities.

Ordinary observation tells us that there are significant differences between the emotional responses of an infant and those of an adult. How, then, do the emotions develop? With what do we begin life in the way of emotional equipment? How does learning affect emotional expression?

Not too many years ago it was customary to state that newborn babies begin life with three emotions, fear, rage and love. A distinguished psychologist, J. B. Watson, had subjected a number of newborn infants to a variety of experiences and became convinced that all babies react with fear to loud sharp noises or loss of support; that they became enraged when firmly restrained from movement, and that they demonstrated evidences of the emotion "love" when being fed and caressed.[1] Watson's experiments are significant because he did succeed in disproving a number of previously held notions—that human beings are born with a fear of the dark, for example.

However, several succeeding investigations suggested that Watson had permitted some subjectivity to creep into his investigations.[2]

Motion pictures were taken of infants responding to a number of different stimuli—loud noises, bright lights, being firmly restrained, subjected to sudden loss of support and sharp raps on the knuckles. The motion pictures were shown to medical students, nurses and graduate students in psychology, all of whom were asked to attempt to identify the emotion being expressed by the infant. It was discovered that the observers reached little or no agreement in labeling the response when they were not informed of the condition which caused it.

In another try, the observers were told or were shown what was happening to the baby, that he was being dropped, for example. This time agreement was much closer. In other words, the original investigators were apparently designating as "fear" the behavior elicited by sudden loss of support because they knew that this situation would tend to produce fear in themselves.

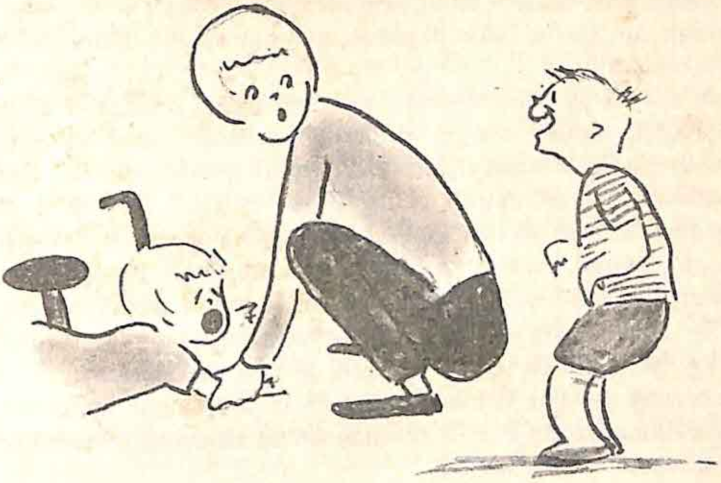
Watson's study did pave the way for a number of similar studies, however. In general there seems to be agreement that it is possible to distinguish only one emotional state for the newborn infant. It is usually termed *excitement*. It seems to be provoked by any strong stimulation. The reaction consists of much aimless thrashing of the arms and legs, movements of the head and torso, and crying. In contrast to this there is only a state of quiescence or resting. But since, in the newborn, it shows none of the positive elements which are demonstrated later (such as cooing and smiling), it is suggested that this must be considered as emotionally neutral.

So, we seem to begin life with one emotional response, excitement. At about the age of two months the infant learns to smile. It has been suggested by one authority that before three months pass it is possible to differentiate between distress and delight arising out of the original excitement.[3]

Certain forms of emotional expression (and therefore presumably the emotions behind the expression) seem to appear in all children at approximately the same ages. These include crying with tears, smiling and laughing. Like the ability to hold the head erect, to sit alone, to creep and to walk, these emotional expressions are apparently related to *maturation*. They occur even in children born deaf and blind who have not had the opportunity to see others smile or to hear others laugh and weep. However, as we have already seen, children who are "unmothered" do not show the wonderful toothless grin of infant delight, so it might be suggested that the appearance of the emotion is, in part, dependent upon the conditions surrounding the child. That the child is inherently capable of this response is shown in the fact that it appears promptly if caressing and cuddling are introduced into his life.

Although the early course of emotional development can be ascribed to maturation, learning enters and complicates the picture almost immediately. The five-month-old baby is likely to be highly suspicious of strangers, for instance, or may even take alarm at the sight of his mother wearing an unfamiliar hat. Maturation plays a part in the development of the ability to perceive a threat, but in addition baby has learned to distinguish between friends and strangers.

Learning plays an important role in the manner in which emotion is expressed. We begin to teach our little boys quite early in life that tears are unmanly, though we accept tears more readily in little girls. Consequently, in adult life, weeping is generally considered to be a feminine prerogative. The small child is likely to attack directly when angered. If this is discouraged, he may learn to assault verbally or to swallow his anger, to express it through fantasy or to "take it out" on Teddy Bear. In our culture we express pleasure and appreciation by clapping our



Learning plays an important role in expression of emotion.

hands. For the Chinese, hand clapping is an expression of worry or disappointment.

We also learn the occasions for emotional expression. We stand up and cheer at a football game, but not in church. We weep at funerals (and, sometimes, at weddings). We do not display affection in public. We accept criticism from our boss without showing our irritation. We may shout for "the kill" at a prize fight or wrestling match, but overt aggression at other times is usually frowned upon. We may become quite boisterous over a soda with the gang at a corner drug store, but are decorous and sedate for luncheon in the big hotel dining room.

Thus, every society imposes a degree of control upon emotional expression. The members of each society are taught the when, where and how of giving vent to one's feelings. Some societies impose more restrictions on emotional expression than others, so that some peoples appear to be more taciturn or stoical than others. Contrast the impassive American Indian, for example, with the French or the Italians.

The entire business of emotional control poses some knotty problems and has rather far-reaching implications for mental health. We shall discuss this in the following section.

Emotional Control

We have seen that emotions are feeling states, involving marked bodily changes, which are directly related to our needs. The feelings associated with satisfying needs tend to be pleasant. Those accompanying a need we cannot gratify tend to be unpleasant.

Since each human being is constantly involved in the pressing effort to fulfill his needs, both pleasant and unpleasant emotions are the lot of all mankind.

It should be rather obvious, too, that in the interest of living together in civilized society certain emotional controls must be imposed and learned. Think of what a menace an adult would be if he had no more emotional restraint than a child. When enraged, he would attack with murderous intent. When crossed he might indulge in a violent temper tantrum. Indeed, we tend to term the free and unfettered flow of emotions "childish" and to expect something better from maturity.

In order to live relatively secure from rape, plunder, brute force and cruelty, we begin to teach the child to curb his powerful emotional impulses early in life. While we are all in agreement upon the necessity for emotional controls, it is the manner of teaching those controls which sometimes causes difficulty.

Generally, the tendency has been to teach that any negative emotion is bad. In order to check the fierce urges to attack when angered or jealous, we have insisted that anger or jealousy or hostility are wicked and wrong.

Johnny's need for his mother's love is severely threatened by the arrival of the new baby sister, who takes up a good deal of the time and attention which was formerly a cozy monopoly. Johnny is too young to understand that his mother does not love him less, even though he must share her affection with another. He is angry and confused. He wants his mother all to himself and that red-faced baby is always in the way. "Let's send her back to the hospital," he suggests. Mother is horrified. "Johnny, don't you ever say such a wicked thing again! Good boys love their little sisters."

So Johnny learns that to feel the way he feels is wrong, that he is a bad boy because he does not feel particularly loving toward the little intruder at all

To feel negative emotion when we are blocked or threatened is human—the fate of all mankind. It is the way we are made. There are no exceptions. We cannot pick and choose among human emotions, saying "Yes, I will feel this emotion" and "No, I will not feel that one."

If we have been taught that to feel anger or hostility or fear is evil, we are caught in a real dilemma. The powerful upsurge of feelings is as involuntary as heart beat and breathing, one of the facts of human functioning. If those upon whose good will we depend insist that such feelings are wicked, the only recourse is to deny that we have them, pretend frantically that they are not there, push them back where they cannot be seen. While this may succeed in preventing direct expression of the emotion, it does not result in control of the emotion at all. As a matter of fact, the repression of unpleasant feelings results in loss of effective control.

Perhaps this will become a little more clear if we use an analogy of a steaming teakettle. Like steam, emotions have force. They provide the organism with a burst of energy to do something, to take action. Ordinarily the steam in the heating kettle escapes directly out of the spout—just as, under primitive conditions, the "steam" of anger was probably dissipated by fighting or the "steam" of fear was utilized for flight.

But what happens if the teakettle spout is stopped up? Perhaps the lid will blow off or, if it is fastened on securely, a hole might develop in the side of the kettle where the metal is weak. Or there may be one grand explosion.

In a similar fashion, emotional energies need an outlet. We cannot plug up all the possibilities of emotional expression without inviting trouble. And, of course, by denying the fact that we have certain emotions, by attempting to pretend that they are not there, we are, in effect, trying to prohibit the "steam" from escaping in any fashion. Escape it will, however, in one way or another. Johnny's resentment toward his little sister might become transformed into a bitter antagonism toward girls in general. He might work off the angry feeling by becoming the neighborhood bully. He might vent his hostility by directing it against minority groups. He could possibly provide himself with a kind of escape valve for the feelings by becoming destructive of toys or property or by cruelly tormenting a puppy dog. He might re-direct the angry feelings toward himself and bite his fingernails, grind his teeth or exhibit similar symptoms of bottled-up hostility.

To feel negative emotion when threatened is human.

Because of the intimate relationship between emotional feeling and various physical manifestations, we must also reckon with the effect of stopped-up emotions upon the body. You will remember the list of bodily changes which take place during emotion—the heightened blood pressure, the accelerated heart rate, the slowing of digestion, to mention but a few. When the emotion is given expression in action—when a primitive ancestor, for example, routed the saber-toothed tiger—the body rapidly returns to normal. If, however, the emotion is pushed back and denied, the body tends to remain "charged up" to a certain extent. This state of affairs, prolonged over a period of time, may lead to actual organic damage. The accelerated heart can become weakened and impaired in function. The increased blood pressure may bring about changes in the walls of the blood vessels. The digestive tract could be adversely affected. In the chapter on psychosomatic medicine, we shall discuss in detail these and other medical problems which seem to have an emotional basis.

The problem confronting us with regard to emotions seems, then, to be a two-pronged one. In order to exist peaceably together we must insist upon a certain amount of control over emotional expression. We cannot permit Johnny to hurt his baby sister, no matter how well we understand the natural emotion which impels him to do so. On the other hand, it is necessary that the emotions be given some kind of outlet, that the energies be drained off harmlessly without injury to one's self or others.

Can this problem be solved? Does psychology have the answers? Not entirely. Psychology is far too new and cautious a science to suggest that it offers pat solutions to all problems of human behavior. However, from psychiatry, from clinical psychology, and from the field of mental health we can gather practical suggestions regarding the management of human emotions.

The first step seems to be summed up by the dictum of the great teacher Socrates—"Know thyself." This entails a lifelong search for greater understanding of the forces which activate mankind in general and ourselves in particular. The present course offers only the barest of beginnings. From the fields of sociology, anthropology, physiology, philosophy and, of course, further study of psychology, information can be gathered which bears upon the question of why we behave as we do. This does not mean that one must become morbidly introspective. It means only the maintenance of a healthy, active curiosity, with full realization that to arrive at The Truth immediately shuts the doors to further inquiry. We must look instead for truths, accepting the fact that while we may never arrive at a final irrevocable answer, each field of study and every advance in those fields will throw some light upon what Ashley Montagu terms "the art of being human."[4]

We must learn to accept emotionality as one of the facts of life. We must endeavor to understand that feelings of envy, anger, fear and hostility are as natural and normal as feelings of love, sympathy, joy and ecstasy. We cannot, as human beings, select from the emotions those we will feel and those we will not. As feeling organisms, the capacity for hate as well as love is a part of our human inheritance. It is impossible to deny one without stunting the other.

But we can strive for intelligent, rational control over the expression of emotion. Fierce anger, when acknowledged, need not result in an attack upon the source of the anger. Instead, a deliberate attempt may be made to use the emotional energy creatively or to work off the physical effects with some vigorous physical activity. A friend of the author, the mother of four active, handsome children, reports that at the point where she longs to bang all four noisy little heads together, she scrubs the floor on her hands and knees! Another friend retreats to the garden and tackles weeds and worms with a frenzy. Some people have found tennis or golf useful in this regard. Others resort to a brisk walk around the block. Many modern nursery schools make use of an inflated plastic figure which the youngsters are invited to pummel to their hearts' content. Any strenuous pursuit involving physical activity will help drain off the physical accompaniments of strong emotion. Once the bodily functions have returned to normal, it is usually possible to reconsider with a clearer head the incident which touched off the storm.

Our emotions, then, can serve us well or make of us puppets, dangling at the ends of the strings of our feelings. The achievement of self-understanding, slow and painful though the process be, can tip the balance in favor of rationality, by which we solve our problems with intelligence and direct our energies toward reachable goals.

Summary

1. Emotions are feeling states, manifested by physiological and psychological changes.

2. Emotions are related to motivated behavior in four ways:
   a. Emotions accompany the arousal of a need.
   b. Emotions accompany the motivated behavior which seeks to right a need.
   c. Emotions attend the end result, tending to be pleasant if equilibrium is restored or unpleasant if the efforts fail.
   d. Emotions, once firmly attached to an object or situation, may themselves serve as motives, instigating goal-directed behavior.

3. The physiological changes in emotion remind us that sometimes emotion serves an emergency function, mobilizing the body resources for intensive effort.
   a. Heart rate increases.

b. Blood pressure rises.
c. Changes in blood composition occur.
d. Respiration increases.
e. Gastrointestinal activity slows down.
f. Pilomotor response occurs—"the hair stands on end."
g. Pupils of the eye dilate.
h. Muscle tension increases.
i. Perspiration increases.
j. Changes occur in the galvanic skin response (GSR).

4. Emotional responses develop through both maturation and learning out of the single emotional response of the newborn, which is termed excitement.

5. The necessary teaching of control of emotional responses poses problems. We must continue to seek better ways to teach children to accept and acknowledge all emotions and, at the same time, to find outlets for expression of strong emotions which are not harmful to themselves or others.

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Chapter 12

THE CONCEPT OF PERSONALITY: RELATIVELY ENDURING PATTERNS OF INDIVIDUAL BEHAVIOR

Personality Judgments

The term "personality" is popularly used in a variety of ways. Sometimes it is used quantitatively. Fred may be described as having "no personality" or Betsy as the life of every party because she has "so much personality." Frequently the term is given a qualitative connotation. Thus we speak of Debbie as a successful student nurse because she has such a "good" personality or, conversely, of Rebecca who dropped out of nursing because her personality was so "poorly suited" to the profession. Sometimes traits of personality are cited—an "aggressive" personality, a "happy-go-lucky" personality. It is also commonplace to speak of personality "types" and usually we have a definite picture as to what is meant by various characterizations. "John is the athletic type" probably suggests a fine figure of a lad whose heart is in the world of sports. "Virginia is the scholarly type." We have a mental picture of that one, too—horn-rimmed glasses, a little stooped and dowdy, with top marks on every quiz.

The word *personality* comes from the Latin *persona* which refers to the mask worn by actors in the ancient theater to indicate whether they were portraying a tragic or a comic figure. As used in everyday conversation, our judgments of personality tend to pay tribute to the derivation of the word. When we say "Kim has a shy personality" we are, in effect, summing up impressions of Kim based on appearance, behavior, and other external attributes. Kim's persona, the "mask" that she wears, as it were, is one of reserve and self-effacement.

Implicit in the statements commonly made about personality are two assumptions. First, there is the inference that personality has a certain consistency. Statements about personality tend to be blanket statements. We ordinarily do not say "Kim seemed shy in such and such a situation today," but rather express a belief that Kim is regularly content to play a retiring role by generalizing— "Kim has a shy personality."

The belief that personality consists of patterns of behavior which are characteristic of an individual in a variety of situations is perfectly valid. However, many offhand assessments of our friends' and associates' personalities are based on very limited observations. It is much too easy to arrive at a descriptive term derived from a few incidents and to ignore other possibilities. Thus, the business man may be a petty tyrant to his employees, hail-fellow-well-met to his partners on the golf course and an indulgent father to his children. We ourselves present different pictures to our classroom teachers, to our families, to our roommates and to our boy friends. As we saw in the discussion of status, these various ways of behaving in different situations are called *roles*, and the personality apparent in one role may be quite unlike that in another.

Furthermore, the personality descriptions in casual usage tend to carry a large measure of personal bias. There is a distinct tendency to judge others in terms of how their behavior or appearance fits in with our own personal standards and ideals. In commenting upon Betty's "wonderful" personality, we are really reflecting something of ourselves. It is perfectly possible that Betty's patients and supervisors would not agree at all. We see Betty as self-assured and sophisticated—attributes longed for in ourselves. But others associated with Betty may see her as hard and self-centered, with a cynicism that ill becomes one of her age.

Personal biases in the form of *stereotypes* can also influence our judgments. A stereotype is a mental picture or fixed notion as to what members of an entire group are like. It is the belief in the consistency of personality patterns carried to the extreme of assigning all members of a group the same attributes. A stereotype prevents us from seeing people as individuals with different individual characteristics. It incites a reaction toward a single member of the group according to a preconceived view of his personality. Thus a stereotype constitutes a kind of a roadblock which prevents any true evaluation of the person in terms of himself.

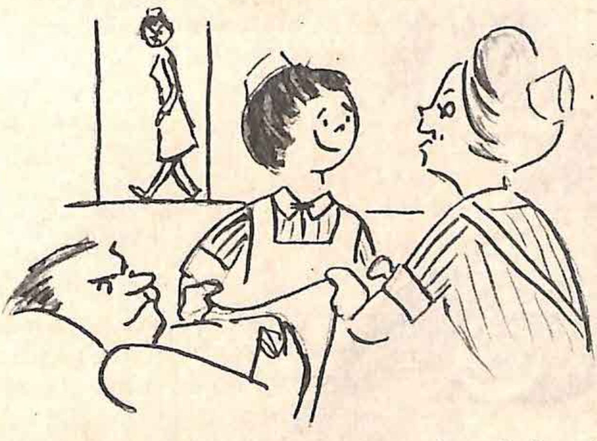
Because personality judgments tend to be based on scanty observations and to contain elements of personal bias, it would, perhaps, behoove us to voice such appraisals with caution and awareness of the possible inaccuracies involved.

The second implication which arises from the statements frequently made about personality is that behavior has been *explained*. Mr. Brown says that Joe failed in presenting his plan to the board of directors because he was so self-conscious. Now, while this explains *what* happened, it offers not the slightest clue as to the *why* of the behavior. We know nothing of the combination of factors and inner processes which eventually resulted in Joe's stammering, perspiring, shaky exposition of his plan and his inability to answer questions from the board in a positive, forthright manner.

"Jean is doing poorly in school because she's so lazy." "Mrs. Olds in room 114 won't take her medicine because she's so stubborn." "Bobby has the kids in the block terrorized because he's such a bully." Though often passing for explanations, statements such as these simply label the behavior. Understanding of the behavior is served hardly at all. If, however it should be learned that Jean stays up until late at night to accomplish the household duties since her mother became bedridden, quite a bit more is known about Jean's "lazy" behavior in school. If it is discovered that Mrs. Olds is without hope for her own recovery, believing the medications and treatment to be useless and feeling that the sooner it can all be ended the better for her family, then relieved of the financial burden, her "stubbornness" is seen in a new light. Plans may be then formulated for helping her to change her attitude. Knowledge that Bobby's step-father beats him frequently in a drunken rage would enable us to understand that subjecting the child to further examples of adult anger, no matter how justified, would only intensify the situation.

This is not to imply that it is possible to fathom all of the "whys" of human behavior or even that one can be regularly successful. But it does suggest that the student of behavior ought to be wary of descriptions, labels, which pass for understanding.

We have attempted to point out some of the confusions existing



We judge others according to our own personal standards and ideals.

in popular usage of the term "personality." However, the concept of personality is important to the understanding of human behavior. Let us turn, therefore, to the structure and function of personality as the psychologist sees it.

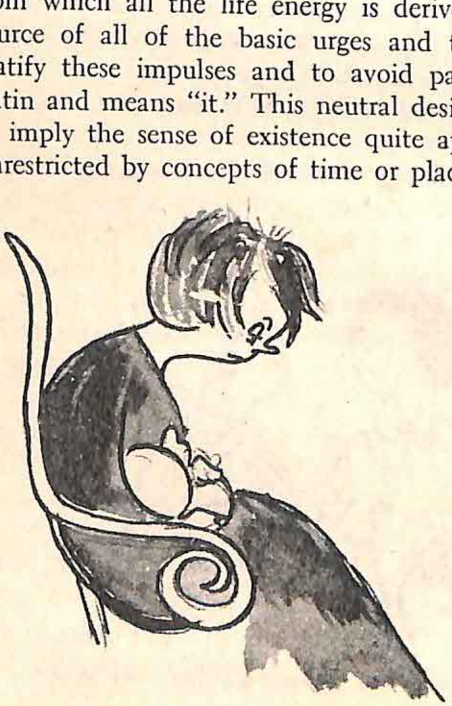
The Freudian View of Personality

One of the most detailed descriptions of personality structure and how it works is that of Sigmund Freud. His was one of the first attempts to offer a systematized picture of the parts of the self and to relate these to both normal and pathological behavior.[1, 2]

According to Freud, personality comprises not one, but three selves. We are, of course, vaguely aware of such a possibility. It is common to speak of "being at war with myself" when faced with a conflict situation. We say "one part of me wants to do this and another part of me wants to do that." Robert Louis Stevenson constructed a classic story around this idea in his *The Strange Case of Dr. Jekyll and Mr. Hyde.* Shakespeare's *Hamlet* is another example—a man who is at one and the same time forthright and courageous, yet faltering and indecisive—divided against himself.

Freud termed his three components of personality the *id*, the *ego* and the *superego.*

The id. The id, for Freud, was seen as that aspect of personality from which all the life energy is derived. It was considered to be the source of all of the basic urges and to have one overriding aim: to gratify these impulses and to avoid pain. The term "id" comes from Latin and means "it." This neutral designation was apparently intended to imply the sense of existence quite apart from the real world, wholly unrestricted by concepts of time or place or considerations of others.



The id is totally selfish and has no consideration for others.

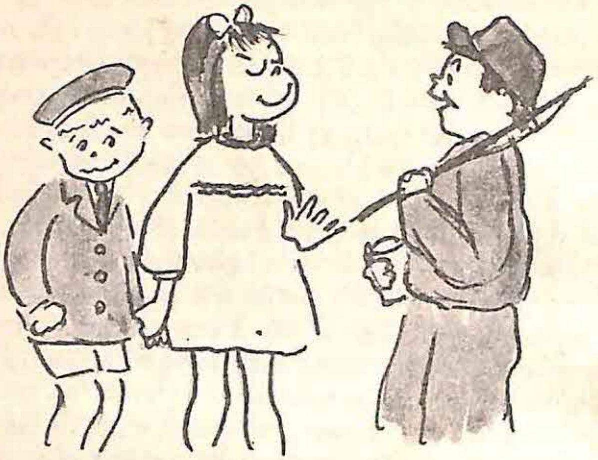
The best illustration of the id in action is the newborn baby. When he is hungry, he howls. When he is satisfied he sleeps. He has absolutely no idea that his demands for a 2 A.M. bottle may be highly inconvenient for his sleepy parents, that his crying may disturb the occupants of the next apartment or that his excretory habits leave much to be desired. The baby is solely concerned with his own bodily needs for comfort.

Only the slightest stretch of the imagination is necessary to tell us what kind of a world this would be if such id domination of behavior continued. Think of a situation in which each individual persistently sought only self-gratification. We would live in terror of our lives every minute, in mortal danger even at the hands of our own family. Fortunately for us and for civilization the id impulses are brought under control during the process of growing up.

The ego. The aspect of the personality which begins control of the id is the ego. For a little while, of course, because of his helplessness, the infant's id-directed desires are gratified. He is fed when he is hungry, even though this may mean a delayed dinner for the rest of the family. We are tolerant of his self-centered, unsocial behavior "because he doesn't know any better." We assume that there will come a time when he will "know better," and that is exactly what happens.

Baby begins to grow up. He slowly begins to comprehend that he is not master of all he surveys. There is a certain inexorable length of time he must wait, for example, while his mother takes a bottle of formula from the refrigerator and heats it. A rattle dropped over the side of the high chair is irretrievable unless someone else chooses to pick it up for him. He attempts to pull himself to a standing position by means of the radiator and is burned. He explores the contents of an ashtray and mother spanks his hands. In other words, he bumps into the realities of life, the realities which have no place in the id dimension.

Slowly, out of the id, then, evolves the *ego*—the "I" of the personality. It is the ego which provides the id impulses with a check, according to Freud. Baby begins to learn the consequences of his behavior. It is the ego which now supplies the "information" that exploring the surface of the radiator will result in a burn, that sampling the contents of the wastepaper basket brings down adult displeasure, that certain cautious procedures are necessary at the top of a staircase in order to avoid a nasty fall. The ego, it should be noted, is not concerned with right or wrong—with morality. Its task is to limit, re-direct or *repress* (push back) those id impulses which are likely to have unpleasant consequences. It is, of course, invaluable in making baby fit to live with. Its growth paces the developing intellectual ability which slowly gathers comprehension of the world. Thus a child who is seriously mentally retarded cannot form a properly functioning ego and must constantly be guarded by others, lest his id impulses lead him into danger.



Recognition of consequences (ego) gradually evolves into conscience (superego).

So the ego is essential to the human being who must live and work and get along in the world with others. Freud believed ego development to be pretty well completed by the age of five or thereabouts and that therefore the years of infancy and childhood are crucial in determining its ultimate strength or weakness.

The superego and the ego-ideal. Even a highly developed ego, however, would enable man to make only self-centered decisions. The basic quality of humanness—the ability to judge right from wrong—is made possible by evolution of a portion of the ego into the superego which can also be thought of as *conscience*. Freud believed that the superego grows out of the punishments and rewards which the child experiences at the hands of his parents. Gradually the child incorporates his view of what his parents regard as good and what they consider improper as his own. The voice of conscience, according to Freud, is the internalized voice of the important controlling adults in the child's life. With its development, values and taboos come from within and parental control becomes self-control. The superego punishes transgressions with feelings of guilt and remorse which are exceedingly painful, and we heed its admonitions in order to avoid these feelings. The superego also rewards "good" behavior. Operating as a subsystem, the *ego-ideal* provides a picture of the self as one would like to be—the goal to shoot at, so to speak. Feelings of pride and self-satisfaction come about when one lives up to aspects of this picture.

Freud did not mean to imply that the id, ego and superego have actual form and substance. Rather he intended his representations to depict the forces which, he felt, operate in every personality. A major problem confronting the personality, according to Freud, is that of maintaining a good working balance among these forces. The id's demands, since these constitute the source of all motivating energy, must be given some outlet. It becomes the task of the ego and superego to see that the outlets are consistent with both reality and the moral principles of the society.

An imbalance in the functioning of these forces, he suggested, results in some degree of incapacity for "normal" behavior. Id dominance, unrestrained by ego or superego, is exemplified by the behavior of the schizophrenic or manic patient on the psychiatric floor. Without the curbs of reality or morality provided by ego and superego, he may smear excreta, shout obscenities, remove his clothing or indulge in infantile-level ideas of his own supreme power. In a less extreme form, the result of moderate id-domination is seen in people described as "childish" because they insist on the gratification of their own desires regardless of the rights and welfare of others. There are probably occasions when the id gains control in the lives of any of us, particularly under conditions of great stress. The shout of "Fire!" in a theater may cause the crowd to rush pell-mell for exits, each individual intent only upon his own safety. Illness is another such threat, often weakening ego and super-ego controls. The childish behavior observed in such patients is a consequence of changes in the balance of personality forces, brought about by fear and suffering.

There are others whose ego formation seems strong, but in whom the superego somehow failed to develop properly. Many criminals and delinquents fall into this category. Their asocial behavior is directed only in terms of reality, i.e., the possibility of being caught.

Still others may be described as laboring under a heavy-handed superego. These individuals rigidly deny themselves any sort of pleasure, are constantly harassed by a sense of sinfulness and frequently seek to impose their inflexible taboos and restrictions upon others. They lead cheerless, unproductive lives, preoccupied with the impossible task of keeping every impulse seeking gratification submerged.

Freud's view of personality, then, conceived of a constant struggle between the id on one hand and the ego and superego on the other. Before leaving this theory it is essential to describe yet another aspect. This is the concept of the importance of the unconscious in the functioning of personality.

Levels of psychological activity. The mental life of the individual takes place on three levels, suggested Freud. While the "levels" cannot be said to exist in fact, like the strata of rock formation, the term is a convenient symbolic designation.

THE CONSCIOUS LEVEL. Freud saw the conscious mind as that which is involved with immediate, present awareness. Here is accomplished deliberate problem solving, decision making, thinking, sorting out of the stimuli which press for attention.

The fore-conscious level. This he considered to be the storehouse of memory. From this segment it is possible to readily recall dates, facts and experiences which then serve for the moment in consciousness.

The unconscious level. Below the level of recall lies a vast "storehouse" of experiences, thoughts, desires and feelings which once were conscious but which are now wholly forgotten. While memories of early childhood are usually quite incomplete and discontinuous at the fore-conscious level, the unconscious retains a complete record of that which is now lost to voluntary recall. Here, too, are to be located many strivings of the id which have never been conscious.

The significance of the unconscious lies in the fact that the mental processes "stored" here are not quietly sleeping. Since they represent wishes, fears and emotion-loaded experiences which are antithetical to ego and superego demands, these forces of the personality must continually push back and hold down the seething unconscious energy. Freud's term for this is *repression*. A situation is thus created which is analogous to filling a teakettle, putting it on the fire and then plugging up the spout and securing the lid. Something's got to give! In the same fashion, reasoned Freud, the dammed-up unconscious energies must obtain some outlet. This potentially explosive state of affairs can result in tragedy. If the ego and superego were weak to begin with, or became weakened through long misfortune, or if the unconscious houses energies which are uncommonly powerful, control is sometimes lost and the individual, overwhelmed by the unconscious, behaves in a manner which we call "psychotic." Fortunately, however, most of us develop a variety of "safety devices" which permit tolerable escape of the unconscious "steam." A number of these will be discussed in the chapters concerned with defense mechanisms, others will be touched upon under the heading of psychosomatic medicine.

Freud was convinced that much of what is done and said, even in the ordinary course of day-to-day living, is profoundly influenced by the "subterranean" unconscious energy. Ego prods us into making a dental appointment. "See your dentist twice a year," chimes in superego. So the dreaded day, the hour, comes—and passes. Suddenly we discover with considerable chagrin that the appointment was completely forgotten. What has happened here? Consciously there was every intention of keeping the appointment. Ego and superego "did their best," as it were, to hold in check the id urges toward avoidance of pain. The conflict between these forces was resolved (at least for the moment) *unconsciously*. That is, without our awareness. Otherwise, forgetting wouldn't have "worked." Ego and superego were enabled to "save face," since forgetting is a relatively acceptable excuse, while the powerful avoidance-of-pain pressures were also served.

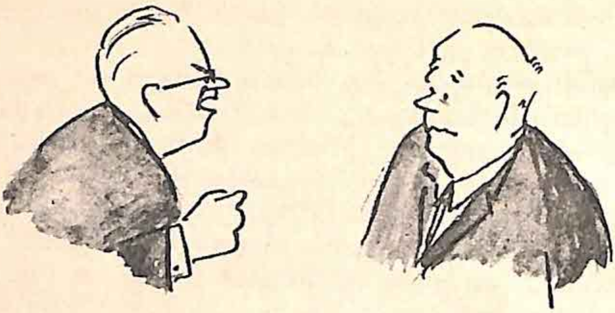
Personality as the learning theorist views it.[3] One might immediately question whether the tripartite division of personality into conflicting opponents is necessary. Might it not be wiser to concentrate on the learning process by which the organism acquires techniques for dealing with his life's situations? Why not conceive of ego and superego as simply the accumulation of learned responses, attitudes and values? Such a view would fit in nicely with the concept of basic needs and with learning theory.

It would begin with postulating that the newborn infant is equipped with primary needs which consist of internal stimuli of great strength, that he is capable of a few responses to specific stimuli (such as sucking) and that he possesses innate potential ability to learn. Granting the necessary concessions to the fact of human growth and maturation, it would then suggest that the organism gradually becomes capable of responding to increasingly complex stimuli.

Once a response has occurred, its persistence or extinction would be determined by reinforcement or lack of reinforcement. Through learning, the initial limited range of primary needs then becomes elaborated into an intricate system of secondary needs, some of which are unique products of a specific learning situation, some of which are results of common learning situations in a particular culture.

The learning of the language has an important role in this formulation. Words become cues, capable of stimulating responses and facilitating both the "spread" of learned elements and the distinction of differences. Thus, once a thing or event or experience is named, that "tag" can be transferred to another thing or event or experience with common elements. This is the operation by which a toddler might call his first squirrel a "kitty." In the study of conditioning the process was termed generalization. It enables us to bring a semblance of order out of a chaotic multitude of stimuli. Certain stimuli can be classed as "the same" and there is no need to learn a new response for each situation possessing the generalized attributes. Thus, baby, having learned the response to "hot" after experience with a radiator, can respond appropriately to that cue in its generalized application to a kitchen range, an electric iron or a bonfire.

But baby is disappointed if he responds to the word "kitty" by expecting the squirrel to stand still for a little petting. This particular response is not reinforced. So a new label is learned to signify the difference between a kitten and a squirrel and the response toward "kitty" is exchanged for one more suitable to "squirrel." The student will remember that this latter process, also vital for effective dealing with reality, is called *discrimination.*



Some of us carry childhood responses into adulthood.

Generalization and discrimination do not always proceed so efficiently, however. Infants and children are particularly apt to generalize in terms of their very limited experience with the world. The continuation of childhood responses into adult life toward stimuli regarded as the "same" in a child's view can often handicap adult efforts to deal with present reality. Thus, a child with a harsh father may attribute "harshness" to all authority figures. His childhood response of fear and hostility, carried over into adulthood, is likely to seriously impair his relationships with policemen, the boss, superior officers in the armed forces, teachers, government officials or anyone in a position of authority.

The unconscious is important to this theory of personality, also. In this view the unconscious would be those determiners of behavior which are "unnamed," which elude language. Included would be all the needs, responses and cues learned prior to acquiring speech and which, therefore, went unlabeled. Things, events and experiences which cannot be verbalized are not accessible to ordinary consciousness and hence are "unconscious." With his limited language proficiency, his limited comprehension of the world and his limited ability to manipulate the environment, the child is literally at the mercy of each momentary circumstance. Dollard and Miller note that:

> The infant has not learned to wait, not knowing the world's inescapable routines; to hope, and thus assure itself that the good moment will return and that the evil occasion will pass; to reason and plan, and thus to escape present disorder by constructing the future in a controlled way. . . . Savage drives within the infant impel to action. These drives are unmodified by hope or concept of time. The higher mental processes (the Ego) cannot do their benign work of comforting, directing effort, and binding the world into a planful sequence. What is gone may never return. The present pain may never fade. These are the tumultuous circumstances in which severe unconscious mental conflicts can be created. Only when the child has been taught to speak and think at a rather high level can the impact of the raw, drastic character of these circumstances be reduced.[4]

Also included in the unconscious would be the areas of experience which once aroused excessive fear. Since the fear reaction is aroused by remembering or thinking about the experience, a new response must be adopted, one which can be termed "not-thinking." The fear can be reduced by avoiding thoughts of the dreaded instance. Therefore, the "not-thinking" response is regularly reinforced and becomes firmly entrenched in the individual's habit structure.

The learning theory approach to personality is bolstered by a large amount of experimental evidence. Its emphasis upon a process which can be observed under laboratory conditions avoids Freud's heavy reliance upon intuitive constructs. It appeals to many psychologists because it offers a lucid and coherent account of how behavior is transformed as a result of learning.

Personality as the Result of Interpersonal Relationships[5, 6]

Still another view holds that it is quite futile to consider personality as an entity, that personality can only be studied in terms of interpersonal relationships. Personality, according to this view, is manifested only when the individual is behaving in relation to others and that therefore "others" are inextricably entwined in the outcome. The "others" need not be present in person, but since all of the psychological processes have been derived through these relationships, the significant "others" in one's life are ever present in perceptions, memories, modes of response, dreams and fantasies.

Sullivan (whose theory this is) did not, then, see personality structure in terms of needs, striving and goals which "belong" to the particular individual, but rather as an organization of the events occurring through interaction with others. He tried to teach his students that the attempt to understand an individual personality by observing and describing that individual's responses neglects the broad context of behavior. He felt that study should focus upon the total interpersonal situation rather than upon the individual. Sullivan relegated even the biological needs to a subordinate role in this formulation, reminding us that the human infant would not survive at all without support from others to serve those needs and suggesting that it is the quality of these early interpersonal interchanges which is crucial to personality development.

Sullivan, too, recognized that behavior is often influenced by that which is beyond individual awareness. In brief, he suggested that the gradually developing sense of *self* excludes from its own awareness anything which causes intolerable anxiety. His term for this process was *dissociation*. Thereafter anything that might tend to arouse this anxiety is avoided. If large areas have had to be dissociated, the ability of the self to grow and integrate new experiences is severely restricted and the ability to interrelate effectively with others is crippled.

The Self Concept

An increasingly important notion in psychology is one which emphasizes the role of the *self* and the *self concept*. This view holds that the "I" or the "me" of personality develops gradually as the young child slowly differentiates himself from the rest of the world, begins to understand that his body belongs to him, registers impressions of how his parents and others perceive him and acquires some sense of his own attributes. Gradually the world comes to be seen from the standpoint of a central, constant self.

Once the concept of self has been formed, it tends to be maintained and preserved. Through the changing circumstances of life, throughout the changes which take place by reason of growth, development and learning, even throughout changes which may occur because of body impairment, the self continues to have some recognizable identity. Behavior tends to be organized in ways that are consistent with the self concept, and other ways of behaving are avoided. Experiences are brought into the system if they "fit"; if not they are rejected, or they may be distorted until they fit. An individual who perceives others as hostile in relation to himself is likely to see hostility in the most innocuous transaction. The child who sees himself as a failure will be afraid to try even those experiences which might bring him some small successes.

This theoretical approach to personality and behavior is being built into a body of research and is incorporated in a psychotherapeutic procedure called "client-centered therapy." It might be said to enhance, rather than contradict, some of the other theories we have met—Erikson's "ages of man," Freud's concept of ego and superego development, the learning theorists' view of personality attributes as acquired by way of conditioning principles and Sullivan's idea that the self emerges as a result of interpersonal relationships. Effectance motivation would seem to offer possibilities of an integration with the theory as would Menninger's concept of "vital balance." As the research builds up it may very well be that, as one psychologist suggests, self psychology will offer the possibility of unifying heretofore separate facts and theories from developmental psychology, behavior theory and individual behavior.[7]

Points of Agreement in Personality Theories

We have now described, though in vastly oversimplified fashion, four differing ideas regarding the structure of personality and its functioning. Many others exist, some stressing one aspect, others another. Perhaps it would be most helpful to the student if it might be ascertained on what points most theories tend to agree. Several of these can be suggested.

1. Most theories agree in suggesting that personality can be defined as a relatively enduring organization of patterns of behavior characteristic of the individual. Emphasis differs in conceptualizing these patterns. Some theories regard the structure of personality together with the integration and articulation of its aspects as being of paramount importance. Other theories focus upon the process by which the organism acquired habitual responses to the various situations with which it is confronted. Others view the specific quality of interrelationships with other individuals as crucial in any attempt to describe personality. Still others see the self and its self concept as the frame of reference through which the world is perceived by the individual.

2. Major theories agree in suggesting that dynamic forces underlie behavior, that behavior is *caused*. The nature of these forces is not generally agreed upon. For Freud they are two great biological strivings which are transformed into elaborate and complex patterns of interaction among the three aspects of the personality. For others they are the needs which become elaborate and complex through processes of reinforcement, extinction, generalization and discrimination. For Sullivan they are the "dynamisms" which arise out of the pursuit of security in interpersonal relationships and are manifested in behavior characteristic of the individual. For the self theorists there is the individual necessity of maintaining a "steady state," preserving and enhancing the concept of self.

3. All theories agree that some of these dynamic forces are unknown to the individual, that is, that there exist unconscious determinants of behavior. All agree that these unconscious forces are important in personality structure and functioning, both normal and pathological. Theories differ regarding the origin of the unconscious, its content and how it exerts its potent influence.

4. All theories agree on the importance of the total complex of heredity and environment, though some theories emphasize the biological while others lay greater stress on the psychosocial factors.

5. All theories agree on the crucial importance of childhood in forming and organizing the relatively enduring patterns of behavior characteristic of an individual. Theories differ in considering how irreversible are the results of childhood circumstances.

Summary

1. Personality is defined as the relatively enduring organization of patterns of behavior characteristic of the individual.

2. Popular use of the term does tend to imply that personality has a certain consistency. However, too often personality judgments are based upon limited observations and contain large elements of personal bias. Furthermore, personality attributes are sometimes described with

the mistaken belief that the behavior of the individual characterized by the label has been explained.

3. Freud viewed personality as the integration of three parts of the self operating on three different levels of awareness.

The three aspects of the self are:

a. Id—Primitive source of all impulses which operate without reference to reality.
b. Ego—Differentiated from the id as the child develops and acquires knowledge of reality. The ego must then govern the id's impulses, permitting such expression as is consistent with reality.
c. Superego—Differentiates from the ego as the child acquires an internalized concept of right and wrong, of morality. The superego aids the ego in its governance.

These were considered to operate through three levels of awareness:

a. Conscious level—Present awareness, involved in immediate problem solving, decision making, thinking, creating, attending.
b. Foreconscious level—Memory. Storehouse of information which can readily become conscious.
c. Unconscious level—Impulses, desires, experiences which are not accessible to consciousness.

4. Learning theory discusses personality in terms of the learning processes by which the individual acquires his tools and techniques for dealing with the world. It makes use of principles of reinforcement, extinction, generalization and discrimination to account for the persistence and elaboration of responses. The unconscious is seen as a "pre-language" aspect of mental activity or, later, the individual can learn to "not think" about anxiety-producing situations.

5. Personality can also be considered in terms of a total context of relationships with others. In this view, to concentrate upon the behavior patterns of the individual neglects the larger picture, that of the individual behavior developed and continuing in a matrix of interpersonal relationships.

6. The self theories propose that the concept of self emerges slowly as the young child differentiates the "me" from the "not me." It then serves as the organizer for experience, as a regulator of behavior, as the interpreter of physical and social environment.

7. Major theories of personality tend to agree with regard to a general definition of personality, the dynamic nature of behavior, the existence of unconscious determinants of behavior, the importance of the total complex of heredity and environment in what the individual becomes, and the importance of childhood in forming and organizing many of the enduring patterns of behavior.

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SECTION IV

When the Vital Balance Is Threatened: Coping with Troubles

The next four chapters will take up human troubles and our attempts, successful and unsuccessful, to deal with them. We will encompass all troubles with a special term, frustration, *and see all troubles as arising from difficulties in fulfilling needs. We will see "trouble" as a threat to the vital balance which we are pressed to set right.*

Sometimes difficulties can be overcome, problems solved, wrongs assuaged, crises averted. Life returns to an "even keel." But language and imagination do injustice to the vast complexity of human needs and the multitude of things that can "go awry" in the attempts to serve them. Our resources are limited, the world is stubborn and the "others" of the world, harassed by their own needs, may be hostile, competitive or neglectful toward ours. Each of our lives will hold needs which must go forever unfulfilled.

And so it is that each of us must resort to stratagems that enable us to "carry on" even though our goals cannot be attained. For some, it will be seen, the stratagems purchase a semblance of balance at great cost to effective functioning. For some the balance is already precarious and the stratagems fail to preserve it. We will be terming these stratagems defense mechanisms or coping devices *in the attempt to understand their importance in human behavior.*

Chapter 13 FRUSTRATION AND CONFLICT

We have suggested that a basic tenet in psychology, one which underlies all our assumptions, is the causality of human behavior—that every action arises in response to a need and is therefore directed toward a goal.

The goal may be immediate or it might lie in the distant future. We scratch our nose absently, thus relieving some internal tension, or we bend our efforts toward achieving the education requisite to a chosen career.

The goal may be a complex one, involving several needs. Some of us marry not only to secure love, but to give love, to gain status (particularly when all one's friends are marrying), to escape from family restrictions, to punish another for unrequited love, because of powerful physical attraction, or because of a combination of these. Or the goal may be simple and direct, as when we proceed to the dining room at mealtime.

The goal may be a conscious one: We study diligently, hoping to receive a good mark on a test. It may be unconscious, one of which we are quite unaware. Most girls, for example, tend to marry a man who has characteristics similar to those of their father, thus unconsciously carrying out the little girl desire to have father all to one's self.

We have seen, too, that the course of pursuing our various goals is attended by feeling states which we have called "emotions." It was noted that these range in quality from pleasant to unpleasant and that they vary in intensity from the barely perceptible up through emotions which are exceedingly strong. We spoke of the bodily changes which are known to occur during emotion, and suggested that emotions serve as indicators of whether our needs are being met or whether our goals are being blocked. The emotions which accompany a successful effort are pleasant, but if our activity meets with obstacles, if our needs remain unsatisfied, the feeling state is disagreeable indeed.

However, obstacles and barriers blocking the way to our goals are inevitable in life. To be able to satisfy every need as soon as it arises would require a storybook existence and the aid of an Aladdin's lamp. Since Aladdin's lamp and its genie exist only in fantasy, a major portion of human behavior is concerned with the obstacles which prevent or hinder need satisfaction. For this reason let us now focus attention upon this particular aspect of life.

Definition of Frustration and Conflict

The blocking or thwarting of activity directed toward a goal is termed *frustration*. It always produces an unpleasant feeling-state, a disturbing emotion of one kind or another. This could be rage, despair, irritation, anxiety, anger or disappointment, to mention but a few. For the purposes of our discussion we shall designate this unpleasant feeling-state with the generally inclusive term *tension*, without attempting to label the emotion specifically. It is to this uncomfortable inner state that people have reference when they say "I feel frustrated."

Let us try to illustrate. I am walking along a street uncomfortably aware of a hollow feeling in my stomach. Suddenly the aroma of hamburger and onions wafts across the street and I decide that a grilled hamburger and hot coffee would just hit the spot. Pausing at the door of "Joe's Diner," however, I suddenly discover that my wallet is in the pocket of another coat—it has been left at home. Superimposed on my already uncomfortable state of hunger, then, is a feeling which could be described as irritation or exasperation. Under the terms of our definition, the absence of the wallet constitutes the frustration. And my resulting "frustrated feeling" is the tension.

Conflict is the term used to describe a special case of frustration. Conflict occurs when the individual must make a choice between alternatives which seem equally desirable or equally undesirable or when a desired goal also contains unwanted elements. These three types of conflict have been described as approach-approach, avoidance-avoidance, and approach-avoidance.[1] A conflict situation involves frustration because activity toward a goal must be interrupted while a choice is made.

Conflicting approach (approach-approach) choices must be made between several attractive, but mutually exclusive, goals. We might be torn between the wish to marry and the wish to pursue a career if the young man in question dictates "No wife of mine will work after marriage." We sometimes have to decide between studying for a good mark on tomorrow's test or joining the bull session in the next room. A choice may lie between apple pie or a chocolate eclair for dessert. You might have to decide whether to date Rob, who is blond, witty and charming, or Rich, who is dark, brilliant and mysterious.

Frustration is the blocking of goal-directed activity.

Avoidance-avoidance conflicts usually involve more indecision than conflicts in which both goals are desirable. In this case both alternatives are unpleasant and there is a strong tendency to escape the dilemma by lingering over the decision. Tommy does not wish to do his homework and yet he fears the teacher's disapproval tomorrow. He is likely to spend an inordinate length of time "getting ready"—sharpening pencils, rearranging his desk and manipulating the study lamp. Susan dreads going to the dentist, but fears the consequences of neglecting her teeth. She will probably put off the appointment as long as possible. John has to decide between telling his father that he damaged the automobile fender or letting father discover it for himself. He hesitates on the doorstep.

Conflicts involving a goal which is both attractive and yet unattractive give rise to an attitude known as *ambivalence*. This simply means that we are beset with mixed feelings, both wanting and not wanting, liking and disliking. Young people of different religions are sometimes faced with this kind of approach-avoidance conflict if they wish to marry. They may love each other but be unwilling to give up their own religion. Children frequently face this conflict in desiring independence, but fearing the loss of parental love from making independent decisions. Often this kind of conflict takes place within us—we yearn for a pleasure which our conscience forbids.

Sources of Frustration

Frustrations seem to fall generally into three main groups.

1. There are those which seem due largely to circumstance or environment. The economic depression of the 1930's affected the lives of millions of people, wiping out savings accounts and jobs, blasting hopes

Frustrations can be personal, circumstantial or imposed by society.

of financial security, jeopardizing the well-being of countless families. Your grandparents and parents will attest to the fact that it was a time of great worry and tension. The weather may become a source of frustration, dashing plans for a picnic, ruining crops, producing floods or tornadoes, or failing to freeze the pond hard enough so that the youngsters can use their new Christmas skates. A flat tire on the car, a run in your hose as you head for an important engagement, the cake that fails to rise, the mosquito which buzzes over your head as you try to fall asleep—these are "circumstantial" thwartings which loom large and small in all our lives.

2. The second major source of frustration arises from the necessity of living with other people. During our entire lives society imposes barriers which interfere with our desires. Mother moves the ashtray out of baby's reach and halts the important building-block project with her call of "bedtime." School imposes all kinds of restrictions on activity. The law prohibits a left hand turn on a certain street, erects "No parking" signs, and provides a stiff penalty if we elect to settle a grievance with fisticuffs. Every society devises rules and regulations which, in effect, hamper the individual's freedom to do exactly as he pleases. However, as Sigmund Freud points out in his *Civilization and Its Discontents*, to live alone, apart from society and its frustrations, would probably entail even larger frustrations.[2] Living alone would place us at the mercy of natural disasters and wild beasts; we would be uncared for if sick and probably often hungry, cold and afraid. So we trade our "natural freedom" with its major perils and frustrations for the protection of society, accepting its restrictions as the lesser of possible evils.

3. A third source of frustrations might be called "personal." Here would be included the characteristics of body, personality or intelligence which prevent one from satisfying needs and ambitions. Joe has his heart set upon an engineering course, but he cannot make the grade in mathe-

matics. Sam wants to make the football team but lacks the necessary motor ability. The three-year-old attempts to arrange his shoelaces in a bowknot, but his fingers cannot master the intricate turns and twists. The adolescent feels that his life is ruined by a case of acne and withdraws from social contacts. The amputee faces the bitter fact that his agility must be somewhat curtailed. Illness of any sort inevitably involves frustration and is therefore accompanied by the emotional tension of thwarted needs and desires.

Some General Characteristics of Frustration

Frustration always produces an emotional state which is unpleasant. We have termed this emotional state *tension* and included therein all the variations in degree, from a feeling of petty annoyance to a feeling of heated anger. The fact that tension is unpleasant moves us to action. It disrupts the equilibrium and we are impelled to try somehow to regain a measure of balance. Our responses to frustration then represent our efforts to "get back on even keel." Sometimes the term *adjustment* is used to describe this never-ending process of trying to overcome obstacles which block satisfaction of our needs.

Frustration, of course, is and always has been an inevitable part of life. Frustrations begin at birth. It is sometimes suggested that the process of birth itself may be a major frustrating experience for the infant. We know that a tremendous change must take place as the infant is pushed and pulled from the comfortable intrauterine environment into the world of harsh light, loud noises and scratchy clothes, where he must breathe for himself, feel hunger and cold and submit to all kinds of handling.

In any case, frustrations after birth begin to arrive thick and fast. There is the interminable hungry wait while mother gets the bottle of formula from the icebox and heats it. There are the discomforts of colic and cold and being bathed. There are immunization shots. There are toys which disappear over the side of the crib or chair and cannot be retrieved without outside help. As the child grows older there are the parental demands which curb his natural inclinations. If his mother is worried about thumb-sucking she may encase his hand in a contrivance to prevent it. She decides he is old enough to drink from a cup and the bottle is withdrawn. Strange substances are placed in his mouth and he is urged to swallow. Hands may be spanked when they investigate television dials, electrical outlets or the contents of the cupboard of best dishes. These are the common everyday varieties of frustration. Babies brought up on a strict schedule of feedings which is not necessarily attuned to the body's demands, or whose parents are rejecting or who have to be hospitalized because of illness may suffer even more severely.

The important fact which should be noted about frustration during infancy and early childhood is that it occurs long before the child acquires the intellectual capacity to cope with it. The child has no way of understanding that his curiosity must be restrained lest it lead him into real danger, or that the nice crinkly paper happens to be one his father has not read. The child's attempts to deal with his tension—his responses to frustration—are wholly unreasoned and probably develop in a hit-or-miss fashion. Certain of the responses will succeed in reducing the tension; these will tend to be repeated on other occasions. Others which fail (are not reinforced) will be extinguished. Some responses to frustration, then, may become established as rather permanent patterns of behavior; they become habitual, a well-learned portion of the developing personality.

The frustrations of infancy and early childhood are important factors in personality development, with effects which persist into later life. This occurs because, first, the child does not have the intellectual ability to help him understand and work them out, and second, because early responses to frustration are likely to persist as patterns of reaction. The two-year-old, confronted with a new baby in the family, cannot understand that mother's attention to the baby does not mean that she loves him less. His reaction to the frustration is unreasoned, wholly in terms of his feelings. He may make a bid for the same kind of attention given baby by demanding a bottle, by whining, by soiling his pants. He may actively attack the small intruder. He may withdraw dejectedly from the situation, securing a kind of satisfaction from fantasy. He may disguise his resentment in the form of overconcern for the infant, sometimes hugging the newcomer too fiercely or becoming very upset when baby cries. Furthermore, the threat to his security sometimes produces feelings which linger into adult life.

Occasionally a new father views his infant son or daughter with mixed feelings of pride and resentment, little realizing that the resentment has been carried over from his own childhood feelings about a new baby in the family. Now his wife's time and attention is divided, just as his mother's was long ago.

On the other hand, a ten-year-old who acquires a new brother or sister has the advantage of intellectual resources to help him understand the problem. He is much better able to understand that the helplessness of the infant requires a great deal of care. He may be able to actively participate in that care, so that the baby becomes "partly his." If he has some qualms about the possible loss of his mother's love, he may be able to talk it over—to ask her directly and receive her assurance. He is likely to know, too, that brothers and sisters are one of the facts of life. He and his friends probably regard the younger members of the family as nuisances, but the advent of a newcomer does not drastically shatter the ten-year-old's mode of life.

As we begin to realize the important effect of early frustrations upon personality development we are sometimes tempted to suggest that infants and young children should not be frustrated. This is as unwise as it is impossible. Inevitably life is going to bring frustrations. One of the main tasks of growing up consists in learning how to deal effectively with the obstacles in our path. Any attempt to produce a wholly unfrustrating environment for a child would be the poorest possible training ground for life in the real world.

However, perhaps we would do well to watch closely the kind of frustrations which we do impose upon the very young. Our demands should be reasonable and suited to the child's stage of development. We must look for signs of readiness—to give up the bottle, to undergo toilet training, to learn to take turns and share playthings and all the other traits of socialization—before we insist upon accomplishment. We must try to prevent frustration from overwhelming the child. And we must encourage the youngster to try out a variety of ways of meeting frustration. In our discussion of maturation we learned that "easy does it" is a good watchword to remember while helping the child learn to curb his natural inclinations in order to assume his place in society.

Factors Which Affect the Amount of Tension Generated by Frustration

We are using one word, *tension,* to denote the feelings produced by frustration. In everyday conversation, however, these feelings are usually described in terms of degree. We imply that certain frustrations create a large amount of tension while others produce a rather mild reaction. A run in one's hose is not ordinarily considered as serious an incident as having ginger ale carelessly spilled down the front of a best party gown, for example.

A number of factors can be cited which influence the emotional reaction to frustration.

One factor is the *strength of the drive.* This simply refers to how much the individual desires the goal which is blocked. To return to our original example (the discovery that I left my wallet at home while on the way to get a hamburger), my reaction to this situation would certainly be affected by how hungry I am. If it is just a mid-afternoon snack which is being sought, the tension is likely to be considerably less than that occurring when I had only a scanty breakfast and missed lunch altogether.

It can be suggested generally that frustration of the basic needs, such as food, sex, rest and protection from extremes of heat and cold, produces a more intense reaction than such ordinary frustrations as missing elevators, being jostled by crowds, or noting a chip in one's nail polish. In other words, goals which are ends in themselves are usually desired more intensely than goals which serve as a means to an end.

Another factor which affects the emotional reaction to frustration has to do with the *strength of the barrier.* Up to a certain point (this point differs with different individuals) the stronger the barrier, the greater the tension and the efforts to overcome it. We recognize this in some of our folk sayings—"The grass is always greener on the other side of the fence," "Absence makes the heart grow fonder," "Easy come, easy go," "The path of true love never does run smooth," "The more choice the prize, the keener the race." But beyond this point the barrier is likely to seem insurmountable, and though tension is high, direct attempts to overcome the obstacle may be abandoned. In the next chapter we will speak of the indirect ways by which we seek to alleviate tension.

The amount of tension is also influenced by the availability of adequate substitutes. When the absence of a wallet thwarts my desire for a hamburger, I may be less exasperated if there is a candy bar in my pocket. The possibility of seeing a good television show could lessen the tension resulting from having to miss a movie.

Still another factor in reckoning the amount of tension resulting from frustration is the phenomenon known as *cumulative effect.* There is a tendency for undischarged tension from previous frustrations to "pile up." Then, when a new frustration adds even a minor amount of tension, the individual "blows his top," although the precipitating incident may be only a trivial one. Father comes home in the evening, stumbles over a stray roller skate and threatens dire punishment for its owner. Mother immediately understands that he has had a hard day at the office.

The possibility of the cumulative effect of frustration is one to keep in mind on those occasions when the behavior of oneself or associates seems unexplainable. If you find yourself reacting to a situation in a manner out of all proportion to its importance, it might be well to look for a pile-up of previous tension. When a usually docile and friendly patient snaps a peevish reply to an inquiry about his well-being, it might be wise to check his chart and check with the other nurses in an attempt to discover what has caused the unresolved tensions. All of us at times serve as targets for the discharge of accumulated tensions (and each of us occasionally uses an innocent bystander for the purpose of "blowing off" our own "steam"). The course of human relationships will go much more smoothly when we understand that such incidents are not personal attacks—if we can shrug our shoulders and simply charge it up to the fact that the attacker has had a hard day.

Finally, the amount of tension resulting from frustration must be considered in terms of the individual involved. We have already seen that many individuals carry a number of childhood conflicts and frustrations over into later life. The resulting tensions produce an effect very much like the one we have described above, even though the frustrations date far back in the past. Sometimes such an individual is described as "emotionally insecure." He enters any situation already burdened with tension and so he is almost certain to react to frustration in an exaggerated fashion. His emotions are "trigger-happy," as it were, and the slightest incident is likely to send him firing off in all directions. Whenever a rather consistent pattern of excessive reaction to frustration is observed, the persistence of unresolved childhood conflicts and lingering tensions can be suspected.

Individuals differ, too, in the degree of their *self-involvement* in a particular goal. Self-involvement refers to the tendency to perceive objects or events as closely related to ourselves. When one is intimately involved in a situation he feels more strongly about it than if his involvement is only superficial. The loss of an important basketball game may produce disappointment among the spectators, but sometimes the players on the losing team head for the dressing room in tears. A low grade in a course over which we have really slaved is likely to be much more crushing than one in a course to which we have given little attention. The greater the self-involvement in a goal, the greater will be the tension if that goal is blocked.

How Do We Cope with Frustration?

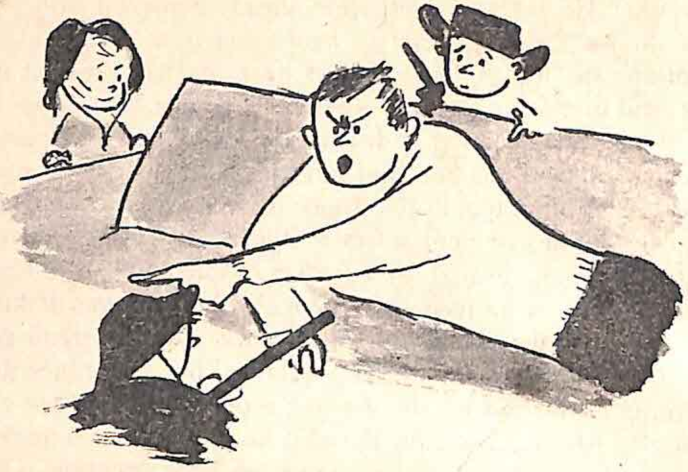
We have attempted to paint a picture of frustration and conflict as inevitable accompaniments of human life. We have noted that no phase of human existence is without barriers and obstacles which deter or prevent us from satisfying our needs. We noted, too, that frustration gives rise to an unpleasant emotional state called *tension*, and that the amount and kind of tension depend on several factors, some inherent in the situation and some residing within the individual.

The unpleasant feeling, the tension, disrupts the equilibrium. It impels the individual to try to do something about it—somehow to regain the lost balance. If this were not so, of course, we would probably make no efforts to overcome frustration.

The picture must now be completed by speaking of the methods by which we seek to alleviate tension. How do we react in the face of frustration? What are the possibilities of adjustment?

There seem to be two general approaches to the problem of frustration in our lives. The first is the direct attack. The individual strives to overcome the source of frustration, but retains his original goal. This is a kind of problem-solving which we all accomplish to a greater or lesser extent in our daily lives.

One possibility is through *realistic hard work*. The lad who hopes for a college education but who is blocked by lack of funds may get a job, save his money and finally accumulate enough to see him through. The solution to a trigonometry problem may elude you for hours, but your concentrated efforts finally pay off. The youngster who did not make the



Tension can be eliminated by overcoming the source of frustration.

football team practices kicking, passing and receiving for an entire season with such persistence that his abilities are noticeably improved.

This kind of stick-to-itiveness varies greatly from individual to individual. Some of us will make a cursory attack on a looming obstacle; others of us simply "never say die."

Apparently childhood provides a crucial training period for the development of this ability. A child who is given tasks at which he can succeed gains confidence in his capacity for reaching worthwhile goals by his own efforts. The youngster who is overprotected, who has not had a chance to taste the satisfactions which come of working hard at a task, is not likely to develop the necessary personality characteristics which will keep him plugging away at difficulty. He will tend to give up easily. The child who has experienced little except failure in what he has tried is also likely to be easily discouraged in his later efforts at problem solving. Hypercritical parents, parents whose demands exceed the child's abilities, rejecting parents or those who are too preoccupied with their own concerns can deal a deathblow to the fragile self-confidence of the child who sees himself mirrored in the parental eyes as "inadequate." Such a youngster will tend to accept failure as his lot in life, and each succeeding lack of success will reinforce this self concept.

Related to the "hard work" approach to frustration is the *development of new skills* which permit retention of the original goal. An individual who acquires a physical handicap may be thus enabled to succeed as a productive and contributing member of society. Some years ago the stalwart captain of a college football team was stricken with poliomyelitis during Homecoming Week End. He attempted to conceal his illness during the game and was finally carried off the field. The attack left him with paralysis of the lower limbs. This young man had been preparing himself for engineering with dreams of active practice in the field. Now, however, he revised his dreams, deciding that if he could not succeed as a practicing engineer, he could succeed at teaching others to be engineers. Today he is a beloved and respected professor of engineering at a large university, a splendid teacher and a leader in the community.

Occasionally a *new understanding of the situation* will accomplish the frontal attack on frustration. The barriers which threaten to prevent us from reaching our goals are not always tangible ones. Sometimes frustration is a product of our own thinking. For example, fears block fulfillment of our needs just as effectively as any physical barrier. A child's fear of a big dog may prevent him from joining a playmate down the street. The young man's fear of his employer may prevent him from asking for a raise. The author's fear of being unable to duplicate the success of his first book may stop him from writing another. If the individual can come to see that it is the "picture in his head" of the situation which is blocking his pathway, he may be enabled to proceed toward his goal. If he can realize that his fears are groundless, the situation will look entirely different. It is reinterpreted, and the source of the barrier is removed. When fear is deep and long-standing, it may be necessary to seek expert help to eradicate it. Those who are specially trained to offer this kind of help with emotional problems are called *psychotherapists*. Psychotherapy will be discussed in a later chapter.

Still another means of directly attacking frustration is through *cooperation with others*. There are times when individual effort is fruitless, but the combined efforts of several can remove the obstacle. The farmer who finds a huge stone blocking the path of his plow may enlist the aid of his neighbors to help him move it. When there are many beds to be made up and just a short time in which to finish, two nurses working together may accomplish the task. Men band together in unions, in co-ops, in teams, in squads and in partnerships in order to reach goals which one man cannot attain alone.

It is possible to alleviate tension, then, by removing the frustration which generated it. By focusing our efforts upon the source of the tension we are approaching the problem directly.

It would certainly seem that the reduction of tension in this manner has much to recommend it. We conquer the obstacle and achieve our goal thereby. Unfortunately, however, even the best of efforts sometimes fail. Furthermore, the direct approach sounds a good deal more simple than it really is. We not only confront frustrations in our lives which are relatively easy to tackle, we also meet with frustrations which are very complex. Frustration can be unconscious, so that it is not possible to ascertain exactly what is blocking our goal. What, then, do we do about the tension—the uncomfortable feeling which must somehow be lessened?

In such instances we tend to focus upon the tension itself. We employ one or several devices which will help in regaining a measure of equilibrium. We protect ourselves from the disorganizing effects of the tension, and for this reason the devices are called *defense mechanisms* or, a term suggested by Dr. Menninger, *coping devices*. This devices do not really alter the original situation, but they do enable us to carry on after a fashion in spite of frustration.

We will take these up in detail in the following chapter.

Summary

1. Frustration is defined as the blocking or thwarting of activity directed toward a goal. It always produces an unpleasant inner state which we are terming tension.

2. Conflict is a special form of frustration because activity toward a goal is stopped while a choice is made between alternatives. Conflict can be classified in three categories:

   a. Approach-approach conflict. Choices must be made between two (or more) attractive but mutually exclusive goals.
   b. Avoidance-avoidance conflict. Choice must be made between several unpleasant alternatives.
   c. Approach-avoidance conflict. Here the goal involves both attractive and unattractive aspects. It tends to produce ambivalence, mixed feelings of both wanting and not wanting.

3. Sources of frustration can be catalogued under three headings:

   a. Circumstantial. These are the events which occur in every one's life—a loved one dies, a golf ball is lost, a fire destroys possessions, the washing machine breaks down, electricity goes off, the store is out of whatever you came to purchase, the museum turns out to be closed for the day.
   b. Interpersonal relationships. Other people regularly interfere with our desires and motivations. Children turn out to be disappointments, friends let us down, love is unrequited. Society itself has prohibitions which must be accepted.
   c. Personal. One's own characteristics sometimes prevent one from satisfying needs or ambitions. Phil's hair-trigger temper cost him the coveted promotion; Beth's voice was fine for church solos, but she'd never make the Metropolitan no matter how much she tried.

4. Frustrations that occur during childhood have long-lasting effects because the child lacks the resources with which to deal rationally with them and because early responses to frustration, most probably learned through the process of instrumental conditioning, tend to persist.

5. There are several factors which determine the reaction generated by frustration:

   a. Strength of the barrier. In some measure this is a matter of individual perception. Some see even minor interferences as total disaster; others find obstacles an exciting challenge.
   b. Strength of the drive or need. Frustration of strong needs produces a greater reaction than frustration of lesser needs.
   c. Availability of substitutes. If a readily available and satisfactory substitute can be perceived the reaction will be less acute.
   d. Cumulative effect. Tensions from previous frustrations may, if unresolved, tend to "pile up." Thus the immediate or distant past history of the individual plays a part in determining his reaction. If he is already laboring under accumulated tension, one more frustration may prove to be the "last straw."
   e. Degree of self-involvement. Thwarted goals which are related to our own self concept produce a greater reaction than those perceived as only casually related to the self. A blow to pride or self-esteem "gets you where you live." Many a college freshman who had made top grades in a small high school finds it exceedingly difficult to revise his estimate of himself downward when he meets the larger competition of the state university.

6. The tension aroused by frustration threatens the vital balance. The individual must, somehow, mitigate its effects. Two possibilities are open. One is direct—the obstacle, whatever it is, is tackled and overcome, the problem is solved and the original goal is thus retained. The second is indirect—rather than focusing on the agent of frustration, the focus is upon the tension. Efforts are made to lighten the tension by means of protective measures called defense mechanisms or coping devices.

7. The direct approach, that of surmounting the barrier, might be accomplished in several ways:

   a. Hard work, diligent effort
   b. Development of new skills
   c. Understanding or reinterpretation of the situation
   d. Group effort

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Chapter 14

DEFENSE MECHANISMS: COPING DEVICES

For this chapter we begin again with the notion of the individual's own "vital balance," ceaselessly beset by upsets large and small, and the never-ending task of dealing with the disequilibrium, either by conquering the frustration or conflict or by an attempt to adjust the tension to a tolerable level. We saw in the last chapter that the means by which the individual seeks to protect himself from the disturbing effects of tension may be called *defense mechanisms* or *coping devices.*

Each of us makes use of such devices as a necessary element of human functioning. There are vast individual differences, however, in the kinds of devices used, the extent of use and the amount of protection afforded. In some cases the coping device itself creates new tensions. The use of drugs or alcohol, for example, though it may provide temporary surcease of trouble, may sooner or later produce larger troubles.

For most of us, many defense mechanisms are transitory, helping us to adjust this or that tension, and, on the whole, we continue to operate pretty effectively. In each of our lives, however, will come frustrations with tensions which do not yield to ordinary, everyday modes of coping—the sudden death of a loved one, for example. We are likely to be "thrown off balance" by such a tragedy and it may be weeks or even months before we return to "normal." So there are periods of excessive stress when tensions are not adjusted by our habitual ways of dealing with them, and when we are "not ourselves." Most of us, however, sooner or later return to our own former "vital balance." Some, indeed, establish a better, more productive level of functioning. Franklin Delano Roosevelt is perhaps an example. He had been a relatively undistinguished young man before the onset of poliomyelitis which left him "hopelessly" incapacitated. We are told he had bleak periods of despair in learning to live with wasted legs which frequently sent him sprawling on the floor, yet his struggles seem to have resulted in new strengths. He stood on those useless legs supported by crutches, hobbled to the podium to receive the Presidential nomination, and his leadership of the country in time of war is history.

However, in some cases the individual slips to a less effective level of functioning. You must know of examples where grief has become prolonged to color the remainder of the individual's life, or where financial disaster has occurred and the individual simply does not regain his "old self."

Some individuals, tormented by the tension of unresolved conflicts, are perpetually on the verge of losing their balance, of "flying apart at the seams." Their coping devices hold them together, but precariously. There may be transitory occasions of loss of control. For others, the coping devices fail and they "slip off the deep end," losing whatever balance they had previously achieved and moving to a level of functioning where they must be cared for to protect themselves and society.

We will have further discussion of these levels of functioning in the next chapter. For now we will point out that in every case, the uses of defense mechanisms serve the same purpose; the individual is attempting to preserve his own vital balance by coping, somehow, with tension which threatens to upset it. In some cases he is successful; sometimes there are temporary setbacks, but time and new measures are effective and balance is restored. Sometimes a new and less effective balance may ensue; sometimes the defense mechanisms fail or "topple of their own weight" and the balance is lost.

Almost every textbook in psychology contains a list of defense mechanisms. Lists vary from text to text because numerous attempts have been made to catalogue and describe the means by which human beings seek to regulate tensions. Let us begin with the most common.

Coping Devices of Everyday Life[1]

Many of the ways of regulating the minor tensions of everyday life are quite familiar to us. We are more or less aware of using them ourselves and frequently identify them in the behavior of others.

It would seem very important for nurses to recognize the tension relief afforded by *reassurances of touch, rhythm, sound and speech*. Perhaps it can be stated fairly that these are the "oldest" modes of coping in each one's life history. Mother thus soothes the troubled child and later, even when our defense mechanisms have become elaborate, it is possible to take comfort from these kinds of reassurances. If you are ever tempted to consider the back rub an unimportant part of nursing care, don't! The sure, rhythmic massage can bring about relaxation as effectively as a sedative. The sound of your voice, a pat on the hand, a few gentle strokes across the hair can help more than you will realize, conveying a certain message of hope—that "somebody cares."

Probably originating as a source of comfort at about the same early time in our lives, *food* continues to serve not only the physiological needs, but also emotional ones. We have already mentioned the meaning of the hospital tray to the patient. Less obvious devices, perhaps allied with food because of the possibility of regulating minor disturbances of equilibrium by means of the mouth, are the use of *chewing gum, cigarettes, pipes* and *cigars, soft drinks* and *alcoholic beverages*.

Self-discipline and *self-control* should be listed as everyday coping devices, though the effects are somewhat more complicated. It is necessary to learn to restrain many of our primitive impulses. We cannot always hurl ourselves in a fury when angered, or tongue-lash a source of irritation, or flee in panic when frightened. We learn to endure, to control, to resist temptations, to make ourselves accomplish the unpleasant. If this can be done consciously, with full acknowledgment of the undesirable impulses and with a sense of pride in being "master of one's own house," these coping devices are healthy and useful. However, if self-discipline involves denial of the impulses (i.e., *repression*, to be discussed in the next section), the tensions may well be augmented rather than decreased.

With good self-discipline, then, should probably go *vigorous physical activity* which can help to dissipate tension. *Creative activity* is another possibility. Painting with bright colors and bold strokes, pounding and sawing at a workbench, a couple of laps in the swimming pool, a rapid walk around the block, even vigorously cleaning up a ward can all function as effective safety valves. Energetic *work* and *play* tend to drain off tensions harmlessly and constructively. These offer the bonus advantage of providing opportunity to learn new skills and to increase self-sufficiency, yielding not only comfort but strength.

Laughing, crying, weeping and swearing are commonly used means of coping with tension. The humor of the American GI in times of stress is well known. Mere mention of the possibility of teen-age boys walking down the street holding hands is enough to make a class laugh nervously, releasing tension which accumulates at the very thought of violation of such a firmly established "of course." It is perhaps sad that we tend to deny to men in our society the regulatory effectiveness of tears and crying. It might be suggested that the tears of children ought to be more readily accepted. We begin, much too early, to say "Don't cry, it doesn't hurt that much" because the crying discomfits *us*, an "of course" that we learned too well. Crying is such a useful defense mechanism that it should probably be more often encouraged rather than discouraged. Swearing serves a similar purpose, though less offensive exclamations will do quite as well.

Sometimes, if there is available a true friend or confidant who is broad-shouldered in understanding, it is possible to *talk it out*. We can stomp in, filled with indignation, and recount the incident in strong words, slamming a book on the table, pacing back and forth and perhaps finally dissolving in tears, secure in the knowledge that the emotional outburst is accepted and safe with the listener. It can be suggested that providing such an emotional refuge, a place to "blow one's top," is one of the functions of a good and sound marriage. The wife who listens quietly and sympathetically while her husband details the day's irritations may be contributing as much to his well-being as she does by planning a carefully balanced diet for him. In the same fashion, the husband, too, must sometimes serve as a wailing wall, without reproaches or condescension.

Thinking it out is similar to talking it out, except the listener is one's self. Especially after some of the tension has been released through vigorous activity, a quiet re-thinking of the situation may actually result in solution.

The restorative powers of *sleep* are well known. Recent research indicates that *dreams* serve an important function in permitting harmless escape of tension, whether they are remembered or not.[2]

Transitory *physical symptoms* both signal the presence of tension and, sometimes, permit escape from an unpleasant situation. Mother learns to inquire whether today is test day at school when Johnny announces a stomach ache at breakfast. The author's son, playing an exciting game of basketball, reported that he suddenly became quite nauseated as the opposing team moved two points ahead. We will discuss the "use" of illness as a defense mechanism in the next section. It is mentioned here as a reminder of the everyday physiological accompaniments of tension. Yawning, involuntary belching or passing of flatus, excessive perspiration, blushing, "rumbling of the stomach," necessity for frequent urination, diarrhea—all may signal that the individual is under stress.

The coping devices of everyday life, of which these are only a partial list, are means by which we deal with small emergencies, minor threats to the vital balance. They do not ordinarily interfere with effective functioning. They tend to be integrated into the general life style of the individual. "The children were so quarrelsome today that they have given me a headache," complains mother, but she does not think less of herself on that count and we accept the fact that now and then mother gets tension headaches. Tomorrow is another day and presumably things will be back to "normal."

These protective devices, then, tend to provide temporary relief. Now let us consider measures which merge imperceptibly with these, also providing relief from tension, but which might have greater or longer-lasting effects on the general "operating level" of the individual.

Many of these terms will already be familiar to you. Many of them have achieved a popular currency in our language. We will use a classification suggested by the late Dr. Karen Horney which reminds us of how the defense mechanism accomplishes tension regulation.[3]

Dr. Horney felt that tension relief can sometimes be achieved by "moving away" from the problem altogether, attempting somehow to escape or avoid or deny the dilemma. Or the individual might discharge tension through aggression, "moving against" others. Or he might seek relief by clinging desperately to others, "moving toward" someone upon whom he might depend.

Second Level Defense Mechanisms—Moving Away: Withdrawal, Avoidance, Escape or Denial

The possibility of escape from our problems lures us all at one time or another. Avenues of escape are many and varied, some offering a temporary haven, others tempting us with a more lasting refuge.

Repression. Repression refers to an unconscious process whereby painful experiences, guilt-producing memories or thoughts which make us ashamed are pushed out of consciousness. Repression is always difficult for the beginning student to understand, partly because we cannot adequately describe exactly how it takes place. We can only observe the results and infer that it has taken place—just as we observe the results of a "something" which makes bodies fall, gives objects weight and keeps the moon in its orbit and to which we give the name "gravity."

Repression seems to be akin to forgetting, but with this major difference: The material which is forgotten does not ordinarily linger to haunt later behavior, but repressed material seems to continue to lead a kind of life of its own, popping up over and over again in disguised form and influencing behavior without our being aware of it.

Repression seems to occur most frequently during childhood, the time of life when the individual is most vulnerable to emotional trauma. It has been mentioned previously that the child lacks intellectual perception of the world by which he might be able to understand the things which happen to him and give them their proper weight. The child is also deeply aware of his own weakness, his dependence upon his parents. Events which an adult might take in his stride loom as threats of utter disaster to a child. Every child goes through a period, for example, when he sees even temporary separation from a parent as permanent abandonment. The youngster has to experience over and over again the fact that the parent does return before he can finally say "Good-bye" with any degree of equanimity.

Furthermore, even the happiest of childhoods is a time of extreme frustration. The child's basic impulses must be restrained and halted on all sides not only for his own protection, but in order to fit him for life in a society of others. So the child loves his parents and knows that he is helpless without them, but many times he must actively dislike them as the agents of his frustration. To feel hostile toward one upon whom you are completely dependent, however, produces a problem which is hard even for adults to face. Almost every child resolves it by repressing the hostility—with the consequence that, as adults, we probably remember very few of the angry thoughts we once directed toward our parents.

How does repressed material affect behavior? It must be confessed that there is no completely adequate explanation of the process by which this takes place. Sigmund Freud offered a kind of mechanical view, holding that the repressed material is charged with energy (like the steam in a teakettle) which continually seeks an outlet. This view serves a useful purpose as an analogy, but a great deal more must be learned about the functioning of the nervous system before the process of repression can be fully understood. However, case studies of thousands of men, women and children, compiled by psychotherapists, attest to the fact that behavior is influenced by the products of repression, that the individual is unaware of what is causing him to behave as he does, and that if the repressed material can be brought to light and explored, the troublesome behavior tends to disappear. This becomes, then, one of the goals of psychotherapy.

What kind of behavior are we describing? First, let us attempt to make sure of our understanding. Repression is not necessarily detrimental to human effectiveness. Like all defense mechanisms, repression helps to maintain the vital balance. All of us differ, however, in the impulses, wishes, thoughts and needs we cannot admit, even to ourselves. Since repressed material must be sternly excluded from consciousness, those with heavy loads of repression devote excessive amounts of energy to keeping the repressed securely repressed. Therefore they have less energy available for effective functioning. Sometimes chronic fatigue results; individuals complain that they are always tired although physical examinations fail to reveal any physiological cause. Sometimes there is inability to sleep, irritability, appetite disturbance or apprehension which is vague and undefined. It is apparent here that we are describing behavior and functioning which are not ordinary—and, indeed, these "symptoms" frequently send the individual to a physician.

Repression, then, differs in degree. Each of us demonstrates, in everyday life, the symptoms of its existence below the surface, but we probably continue to function pretty well as effective human beings. Others become overwhelmed and disorganized, their vital balance and therefore their effectiveness severely impaired.

Some evidences of repression in everyday life are nail biting, excessive smoking, drinking or eating, tics, certain kinds of forgetting (forgetting the name or telephone number of someone you aren't even aware you

"Moving away" from frustration may ease tension temporarily.

dislike) and even slips of the tongue. Freud pointed out that a slip of the tongue usually states what was really in our mind, though the thought had been pushed back or repressed and we are considerably embarrassed when it pops out. Prejudice, repressed hostility which is redirected at an entire group, is another way in which repression shows up. The vicarious enjoyment of aggression (boxing, wrestling, bull fighting, murder stories) is sometimes evidence of repressed hostility. Much childhood cruelty, the tormenting of a pet or helpless playmate, can be explained on the same basis.

Repression is important because it is a universally used defense mechanism which permits us to escape from or deny something which threatens our equilibrium. It complicates any attempt at neat classification of defense mechanisms, because it underlies and is involved in so many other defense mechanisms. Sometimes the reasons for the use of a defense mechanism are repressed; sometimes other coping devices are employed in the attempt to keep the material repressed.

Fantasy and daydreaming. This form of escape is well known to all of us. In our fantasies and daydreams imaginary satisfactions are substituted for real ones. We can be in fantasy what we are not in real life —beautiful, courageous, popular, accomplished. In daydreams our repartee sparkles and we vanquish those who have slighted us. Tom Sawyer, feeling himself greatly misunderstood, envisioned his body dragged from the river and savored the remorse of Aunt Polly as she sorrowfully acknowledged her mistaken judgment of him.

Fantasies and daydreams provide a rough index of the degree of satisfaction the individual is obtaining from life. A certain amount of such escape is not only normal, but probably provides welcome relief from tedium, a break from the routine and the humdrum. To daydream of future goals, to see ourselves in the starched uniform and cap of a graduate nurse, for example, may actually spur action toward accomplishing that goal. On the other hand, the individual who accepts the satisfactions found in daydreams as the major ones of his existence is likely to be leading a drab and colorless life indeed. So we become concerned about the child who is always lost in a world of his own making and try to make his real life more acceptable to him.

Movies, drama, soap operas and many books also provide the means for temporarily moving away from our troubles. Here again comes the perplexing question of moderation. No one can say exactly how much is too much. If the individual is leading a rich and full life, the enjoyment afforded by these escapes will certainly add to it. But if the individual tends to push the real world aside and to prefer the make-believe land of movies, novels and television, a question might be raised as to why his own life is so empty.

Rationalization. This is a familiar device, whereby a plausible reason for behavior is manufactured when we would rather not acknowledge the real reason. *Rationalization* enables us to "save face," and to deny the unlovely aspects of ourselves. It does not alter the frustrating situation; instead it provides a convenient means of escape. Did you get a low grade in the course? Well, the teacher failed to make the assignments clear and quizzed on material the class did not cover. You were not invited to Sara Ann's party? Who cares?—it will be a dull affair anyway. Did you forget to clean the service room before going off duty? Let the night nurses do it for a change—they have left it for us plenty of times.

Rationalization frequently takes the form of blaming others for our own behavior. The author's three-year-old son solemnly assured her that Teddy Bear had sprinkled the fish food over the bedroom floor. Adam, in the Biblical story, shifts responsibility for eating forbidden fruit to "the woman, Lord, who gave me to eat."

Usually this is a wholly unconscious process. Sometimes we are unaware that it is our own behavior which we see and abhor in others. This kind of rationalization is called *projection*. Unable to face the fact that the thought or behavior is characteristic of ourselves, we suggest that someone else is guilty of it. The hostile person may see those around him as filled with hostility. The neighborhood busybody who is so quick to report the transgressions of others may very well be projecting a hidden desire to behave in that fashion herself. The jealous husband who accuses his wife of inviting the attentions of other men may be transferring to her his own secret temptations. When the personality is severely disordered, projection takes the form of delusion or hallucination. The psychotic individual sometimes hears voices which hurl insults at him—a projection of his own hostility. He may see insects and crawling things which are repulsive and terrifying—a projection of his own self-hatred.

Regression. Still another possibility of moving away from a frustrating situation is *regression*. This means that the individual relieves tension by falling back upon behavior which worked more successfully at an earlier period in life, usually childhood. There are times when a degree of regression serves a purpose similar to that of daydreaming or escape reading or a good movie—it is relaxing, enabling one to get away temporarily from the pressures of everyday existence. The alumnus returning to his college for Homecoming becomes again in his mind a fraternity boy (and behaves like one for a rollicking week end). Middle-aged businessmen assembled at a convention occasionally indulge in adolescent shenanigans. A group of small-town grandmothers who have been playing bridge together twice a month for 30 years still call each other "girls" and act like highschoolers at these parties.

Regression tends to play a prominent role during illness. The need for hospitalization is in itself a tension-producing situation, and the hospital setup seems particularly favorable for regression. The patient is frequently helpless (as he was once during infancy), has his bodily needs attended to by someone else (as occurred during infancy) and by a woman (mother-figure). Many a patient unconsciously slips back, becoming childish, demanding, petulant and easily upset by slight frustrations. His relatives may be baffled by the change in personality. An understanding nurse can offer assurance that the change is only temporary and will disappear as the patient regains health and independence.

Sublimation and goal-substitution. *Sublimation* is a term which has come to us from Freudian psychology. Sublimation refers to the unconscious redirection of emotional tension into socially acceptable ways of behavior. Freud suggested that the greatest creative endeavors of the world demonstrate this device—that works of literature, art, music, sculpture, poetry and architecture result when the frustration tensions of an individual can be turned into these channels. Dante's "Inferno" is often cited as an example, growing, it is suggested, out of his hopeless love for the fair Beatrice. The creations of Leonardo da Vinci, it is suggested, demonstrate his own contradictory feelings about women. The greatness of Beethoven's music is thought to be due in part to sublimation of the tensions caused by the composer's increasing deafness.

Goal-substitution is essentially the same device, except that the process may be conscious as well as unconscious, and the result is not always socially acceptable. The lad who fails to make medical school may select medical technology instead—a conscious substitution of goals. The teenager who is insecure about his independence may grow sideburns and a mustache and engage in destructive activity—unconsciously substituting goals which flout society. The National Safety Council is deeply concerned about the number of automobile drivers who transfer their frustrated longing for power into reckless manipulation of several tons of steel, rubber and glass. A middle-aged woman whose days of child rearing are over might consciously seek a substitute in community volunteer work; another, unfortunately, may unconsciously seek to control the lives of her married offspring, their mates and the grandchildren.

Identification. *Identification* is the attempt of an individual to secure satisfactions through the accomplishments of someone else. The little girl who demands a carpet sweeper just like her mother's and the little boy who smokes a replica of his father's pipe are said to be identifying. It is our identification with the home team which makes us feel their defeat as our own. Identification with the heroine of movie or novel causes us to prefer a happy ending to the story, since her fortunes become our fortunes for the time being.

We have included the identification process under the category of "moving away from" because it can be used to avoid feelings of worthlessness. Occasionally a shy and lonely girl will become the loyal satellite of a popular classmate. Identification with the friend enables her to partake of social triumphs which could never really be her own.

Insecure individuals sometimes become slavish followers of a group, since identification with the group gives them a feeling of confidence which they cannot achieve alone.

Seclusiveness. Now and then we read a newspaper story about an individual who has lived alone and apart from people for many years. He (or she) is usually called a recluse. These individuals may board up their homes, admitting nobody. The community considers them queer. They have really "moved away" from all social intercourse with others. We can only conjecture in such cases about the great tensions which called for so drastic a defense.

Seclusiveness more frequently shows up in milder forms, however. Sometimes it is a child who sits alone, day after day, making no effort to join the play groups or the exchange of childish banter. Sometimes it is a teen-ager who trudges from class to class and home again, always withdrawn and isolated. We worry about these individuals and with good reason. They are leading lives which are emotionally crippled, lopsided. To withdraw from the world of friendship, of social give-and-take, cannot help but have adverse effects on the individual's emotional well-being.

Moving Against: Aggression

In listing aggression as a defense measure, we do not mean a vigorous attack upon the problem of frustration itself. We refer, instead, to a situation whereby the angry feelings of tension are diverted, directed toward a secondary object, or disguised. This may succeed in relieving the tension but, as is the case for all defense mechanisms, the basic problem remains unresolved.

Displaced aggression. Still smarting from the reprimand of the surgical supervisor, Joan snaps a peevish reply to the greeting of her room-

"Moving against" others is a way of relieving our tensions.

mate. The roommate, quite aware that Joan's anger has been misdirected, mutters "Don't take it out on me!"

"Taking it out," expressing anger toward someone or something quite removed from the original frustrating circumstances, is a very common device for relieving our feelings.

If this can be accomplished rationally, with a large degree of self-awareness, and without hurting someone else, it can serve as a rather healthy device for "blowing off steam." There are occasions in all of our lives when anger must be swallowed, furious impulses restrained. The man who punches the boss in the nose may be jeopardizing his means of earning a living for himself and his family. The nurse who "tells off" a cantankerous patient is not living up to the code of her profession. To aggress directly toward the traffic policeman who is writing out a ticket may land one in all sorts of difficulties. In these and similar instances the better part of wisdom is to accept the fact that we are angry because we are human, but that as civilized human beings we must not attack the source of our discomfiture.

Unfortunately, however, we are not always rational about or aware of our displaced aggressions. The angry feelings are sometimes turned toward the self. Such an individual may be forever accidentally hurting himself. The child who is always falling out of swings, the worker who is constantly tangling with his machine, the driver with a long and continued history of automobile wrecks—in these and similar cases we begin to suspect the operation of this defense mechanism. These individuals are sometimes termed *accident-prone*. Many industries are hiring psychological counselors in an effort to cut down this type of injury on the job.

Aggression which is unconsciously displaced and unloaded upon others causes much human unhappiness. We have already mentioned the instance of prejudice, in which an entire minority group serves as a target for angers engendered by frustration. Mother's anger at father after a squabble may land upon an unwitting Tommy, confusing and frightening the child. A hectic day on a hospital floor can present an entire series of irritating frustrations. The nurse must watch carefully lest she vent the accumulated exasperation upon patients, colleagues or other hospital personnel.

Displacing aggression is probably one of the most common forms of defense against frustration. Self-awareness can spell the difference between managing our inevitable angers intelligently and permitting them to spill over upon innocent bystanders.

Negativism, uncooperativeness, criticism. These can also serve as defenses when the purpose is to defeat or hurt others. Here the aggression is disguised. The child who always acts up in front of company, refusing to go to bed or shrieking for another piece of cake, may be punishing his mother for dividing her attention. The boy who cannot be pitcher and then sullenly refuses to play any position thereby inconveniences the team. Sometimes a married couple will indulge in this kind of aggression toward each other in front of others by tossing out thinly veiled criticisms.

"Henry, poor dear, just doesn't know which end of the hammer is which," the wife will laugh depreciatingly. And Henry squirms.

"I wish Mary could make coffee like this," Henry will retaliate at the first opportunity. "The stuff she serves me in the morning is just plain mud." And now it is Mary's turn to wince.

Criticism which hurts is an emotional attack. It is particularly devastating to children who have only meager defenses against such tactics. When mother comments, "Suzanne, you look like a mess!" she may think that she is waging a legitimate battle against the blue jeans and sloppy shirt of her young teen-age daughter. But Suzanne already has large doubts about her personal appearance, otherwise she would not have to follow so slavishly the prevailing mode of attire worn by the crowd. Her mother's comments only reinforce her uneasiness. Mother herself is probably unknowingly punishing Miss Teen-ager for flouting the parental ideas of good taste. These small first steps toward independence foretell the final relinquishing of the mother's authority. The mother may dread the thought of growing old and being "put on a shelf." She would like to postpone that day and control Suzanne's life for a little longer. The blue jeans and shirt, worn in defiance of parental protests, represent a threat to the mother's own security; hence the disguised attack which, rather than persuading Suzanne, is likely only to make her more antagonistic.

Superiority, bossiness, property control. These, too, frequently represent covered-up aggression. They are "power methods" of dealing with people.

The braggart, the individual we describe as having a superiority complex, and the individual who is always pushing others around—these people are really desperately attempting to mask a deep-seated sense of inferiority by means of aggression. The individual who is secure in the knowledge of his own worth does not need to proclaim his own virtues loudly in an effort to reassure himself, or to disparage others in an attempt to make himself feel better, or to manipulate others to give himself a sense of power.

In the same manner, property and wealth are sometimes used aggressively to hide insecurity. Ostentation and obvious attempts to impress others with one's financial worth have long been considered the marks of the *nouveau riche.*

Moving Toward: Overdependency

It has been suggested during study of the "negative stage" in early childhood that one of the major problems which each of us must resolve is that of securing a good, working balance between independence and dependence. Each of us begins life in a state of complete dependency. The long years of growing up are preparation for the degree of independence which marks adult status. The achievement of that independence is never without conflict; in each of us lingers a small longing to return to the time when all our needs were taken care of by a loving mother. Nor does the adult ever accomplish complete independence. In a complex society we are increasingly interdependent. We do not make our own shoes or grow our own foodstuffs or build our own houses. Furthermore, we are deeply dependent on others for emotional satisfaction—love, affection and companionship. Most of us make the many compromises between independence and dependence without too much difficulty. We make our own major decisions, stand on our own two feet, assert ourselves on important issues and accept responsibility. Yet we can yield to the counsel of others on occasion and can accept love and affection and help from others without feeling that our hard-won independence is surrendered.

Others of us, however, never achieve a workable balance between independence and dependence. This section is concerned with those for whom the scales are tipped in favor of dependency or what, in the adult, must be termed *overdependency.*

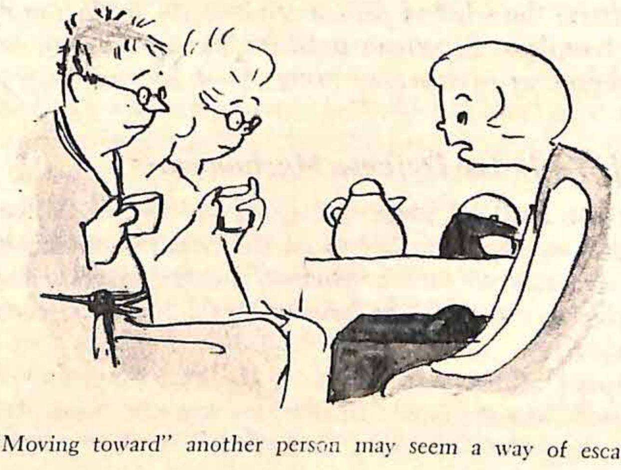
This kind of defense might be considered a form of escape because it does involve turning away from the problems of frustration. However, it involves a special kind of avoidance. Rather than devising a convenient exit for himself, the individual simply quits and seeks to be rescued from his dilemma by someone else.

Illness. Many a novel has been woven around a situation in which a mother unconsciously attempts, by means of illness, to keep her children from leading lives of their own. By becoming dependent upon them she avoids the problem of being left alone.

Medical practice is plagued with illnesses of this type. It has been estimated that one out of every four individuals who consult a physician is suffering from physical ailments which have an emotional basis. We will discuss this type of illness in detail in a succeeding chapter. For the present it should be noted that this defense technique serves to protect the individual from a problem or frustration and that it also serves as a kind of rationalization for dependency: When we are ill we can expect to be taken care of by others.

The beginning student of psychology is always tempted to think of these illnesses as feigned, but it must be emphasized that this is not true. The patient is not conscious of the purposes which the illness serves. The headache or asthma attack or colitis is absolutely real, constituting a medical problem as well as a psychological one.

Other forms of overdependency. Overdependency does not always take as dramatic a form as a case of peptic ulcer, however. We can find the everyday garden variety all around us. Homesickness is a very common example. Confronted with a new and unfamiliar situation, the individual longs for the security and familiarity of home. Some of us actually pack up and go home, turning away from the problem and yielding to the urge to lean a while longer on our parents. The bride who tearfully takes her suitcase and goes "home to mother" is another common example. The responsibilities of wifehood have proved too overwhelming and she retreats to the place where she has been safe and cared for. This kind of overdependency is not wholly a female characteristic. Sometimes it is the husband who has insisted upon setting up his new home under the watchful eye of his mother, consults her before all major decisions, visits her almost daily and plays the role of mama's little boy with much greater



"Moving toward" another person may seem a way of escape.

facility than the role of stalwart husband. There was much psychological wisdom in the words of St. Paul when he enjoined a young man to "leave his father and mother and . . . cleave to his wife."

In the foregoing discussion we have not attempted to list all of the possible defense mechanisms. The student will find descriptions of many others in her future reading. For the present it is important to fix firmly in mind the service performed by a defense mechanism. The defense mechanism helps to protect the individual from the consequences of frustration. It enables him to escape from the unpleasant situation, provides an outlet for the angry feelings arising from it, or furnishes the means for quitting the scene of conflict through dependency upon others.

In our everyday life the uses of defense mechanisms overlap a great deal. We frequently use several at one time. Thus we may escape from an unpleasant task by deciding to read a novel and rationalize the decision by reminding ourselves that being well read is an important social asset. An individual may acquire a headache on the evening of a social engagement which she dreads, bask in the solicitude of her roommate, and then daydream about a situation in which she appears poised, self-confident and exceedingly popular.

The use of defense mechanisms raises some important questions. Certainly it is necessary to realize that a defense mechanism is at best an indirect method of coping with frustration. It does not remove the frustration or bring the thwarted goal any nearer. It simply enables us to carry on in spite of frustration. However, since each of us will meet with frustrations which we cannot remove, with which we must live as best we can, defense mechanisms play a necessary and vital part in each of our lives. Without these devices for lessening the tension caused by frustration, we would be tormented souls indeed.

On the other hand, defense mechanisms can be likened to a narcotic—indispensable for the relief of pain, a valuable ally in the family of pharmaceuticals, a temporary expedient until the forces of health can again take hold. But misuse or overuse can bring about adverse consequences.

How Shall We Judge Defense Mechanisms?

How, then, shall we judge use of coping devices? What are the criteria by which we evaluate the use of these tension-reducing techniques?

In any attempt to decide whether a defense mechanism is a good one or whether its use might be harmful in the long run, several questions might be posed.

1. Adequacy of the satisfaction: Is the device accomplishing its purpose? How well does it succeed in reducing tension? Some defense mechanisms seem to accomplish this more effectively than others. The lassie

who daydreams about being popular, for instance, must still continually cope with renewed tension from her lack of social adequacy. On the other hand, the spinster who lavishes on a home for wayward boys the loving affection which could not be devoted to a family of her own is probably rewarded with many real satisfactions from her goal substitution.

2. Economics of the satisfaction: At what cost is the tension relief being purchased? Some of the defense mechanisms exact an expensive toll in terms of the individual's general well-being. The bedridden individual whose chronic illness is an unconscious response to frustration has really forfeited a great many opportunities for happiness in exchange for his mite of tension reduction. Furthermore, because defense mechanisms are directed at reducing tension rather than at the frustration itself, they do not basically solve our problems. The individual who resorts too frequently to the use of such a device, rather than facing barriers directly, is really engaging in extravagant self-deception. He is trading the possibility of securing real satisfaction for temporary tension relief. He buys his degree of equilibrium at the expense of his long-range emotional well-being.

3. Extended effects of the satisfaction: Does the device assist future adjustment? Does it lead to increasing maturity? Whether the defense mechanism is a step backward or whether it might promote growth by aiding the individual to handle future frustrations with greater ease is really a crucial question.

Those techniques which involve returning to an earlier level of adjustment obviously involve a sacrifice of maturity. The individual who permits homesickness to drive him away from educational opportunities is bartering his chance of independence for childish security. On the other hand, certain defense mechanisms serve as means of relaxation, leaving the individual refreshed and better able to again tackle his problems. A Pulitzer prize-winning newspaperman uses his hobby of model railroading to such ends. When confronted with an important decision or when the frustrations of his occupation pile up, he retreats to his basement hideaway for a couple of hours to run the miniature trains. He states frankly that he puts the real world aside for the time being, but this enables him to return to it with fresh enthusiasm and vigor. Such a technique would seem to be a wholesome and beneficial tool to have in one's repertory of responses to frustration.

4. Degree of self-awareness: How conscious is the acceptance of a substitute satisfaction or face-saving gesture when the original goal is blocked? Do we truly deceive even ourselves through the defense mechanism or do we have enough *insight* to realize that it is, at best, a temporary expedient? Insight is the degree of awareness of the underlying forces behind one's behavior.

To have insight implies acquiring self-knowledge, not only about the sweet, kind self we show to others, but about the hateful impulses we would rather not acknowledge even secretly, much less to the rest of the world.

With insight we use defense mechanisms, meanwhile remaining aware of the needs and goals which have been blocked. This leaves the door open for possible renewed attack upon the original problem. Without insight we are pushed and pulled by inner forces which we know nothing about and are therefore unable to control.

That evaluation of one's defense mechanisms has implications for mental health is quite obvious. Defenses which lead to prejudice, which produce antisocial behavior, which hamper or lower the quality of relationships with others or which cripple the individual's effectiveness exact an exorbitant price in terms of ability to live life zestfully, hopefully, productively and effectively.

Summary

1. A defense mechanism or coping device is used to help regulate tension which threatens to upset the individual's "vital balance."

2. Everyday coping devices, invoked to regulate tension of minor emergencies, tend to be used temporarily. Then balance is restored and things go on as before until the next transitory upset.

3. A partial list of ordinary, much-used defense mechanisms includes:
   a. Reassurances of touch, rhythm, sound and speech
   b. Food, chewing gum, cigarettes, pipes, cigars, soft drinks and alcoholic beverages
   c. Self-discipline and self-control
   d. Vigorous physical activity, creative activity, work and play
   e. Laughing, crying, weeping and swearing
   f. Talking it out
   g. Thinking it out
   h. Sleep and dreams
   i. Physical symptoms, here included not so much as tension releases, but as accompaniments and symptoms of minor stress.

4. Classification of defense mechanisms is difficult. Uses overlap, or several may be used for the same purpose, and some degree of repression (in itself a defense mechanism) tends to underlie them all. Any defense mechanism, incuding the everyday coping devices, may be used excessively with little self-awareness, thus interfering with effective functioning.

5. Other coping devices that are much used, either temporarily or with some degree of impairment of the vital balance, are classified as to whether they provide escape or denial, expression of displaced aggression or relief through dependency.

Escape or denial:

a. Repression—forcing unacceptable thoughts, wishes, impulses and experiences out of awareness. The most important of the defense mechanisms because of the energy that must be expended to keep the repressed material repressed and because a certain degree of repression tends to be involved in the use of other defense mechanisms. Repression functions as denial of the problem.

b. Daydreaming, fantasy, movies, books, drama, provide temporary escape and relaxation or a more lasting refuge.

c. Rationalization and projection provide "acceptable" excuses for behavior when the reality must be denied (i.e. repressed).

d. Regression—moving, temporarily or more permanently, to a level of functioning which was rewarding earlier in life.

e. Sublimation and goal-substitution. Sublimation is defined as unconscious redirection of tension into socially acceptable behavior, sometimes highly creative endeavor. Goal substitution may be conscious or unconscious and either acceptable or unacceptable to society.

f. Identification. Used as a defense mechanism affording escape from one's own insufficiencies by vicarious participation in strengths of another or the strength of a group.

Displaced Aggression:

a. "Taking it out." Anger or aggression directed toward someone or something quite removed from the original target. With some self-awareness, the aggression can be worked off through physical activity, through talking it out or through intelligent use of some other coping device. Without self-awareness, it may turn up as prejudice, accident proneness or exploitation of innocent targets.

b. Negativism, uncooperativeness, criticism. Hurting or defeating others with disguised aggression.

c. Superiority, bossiness, property control. "Power methods" ot dealing with people which contain large aggressive elements.

Overdependency:

a. Illness. The symptoms of stress are "used" unconsciously to punish others or to insure being taken care of.

b. Homesickness; overdependence on parents after marriage. These are other forms of overdependency which may provide some retreat from adult responsibilities.

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Chapter 15 WHEN DEFENSE MECHANISMS FAIL: DISTURBANCES OF THE VITAL BALANCE

The student must have by now caught a glimpse of the "plot" of this section. We have been leading up to proposing the continuity of human behavior, the relativity of "normal" vs. "neurotic" vs. "psychotic" as descriptive terms.

This proposition might be depicted in the following manner: think of a vertical line, a continuum without precise beginning or end. The continuum is to represent "levels" for the kinds of vital balance achieved by human beings. Somewhere near the top of the line, to symbolize "high level" functioning, we will designate "normal" vital balance. Many different descriptions might be offered of what constitutes "normal." Arbitrarily, we suggest that it includes the notion of functioning with *zest* and *hope*, *productively* and *effectively*. Zest means a general enthusiasm for the business of living; hope includes optimism and trust. Productivity refers to contributing to the family, the community and the larger world. Effectiveness refers to responsible uses of the prerogatives of one's age, with competence, and to the full extent of one's abilities.

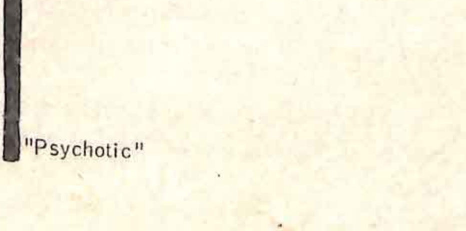
Now it becomes possible to range individuals on the line according to the degree to which each vital balance promotes zestful, hopeful, productive, and effective living. At or near the top would be placed those whose general "life style" includes these attributes. Moving by small steps down the line, we find those whose particular vital balance is not un-normal, but who are simply less than they might have been because of incapacities or circumstances or both. Moving, still in small steps, toward the center, we find less and less of the optimum characteristics—less cheer, less hope, impaired productivity, lessened effectiveness. The early alcoholic might be placed somewhere in here, the panhandler, the swaggering and brutal sheriff, the recluse, the fanatic in whatever cause. The vital balance now tends to be precarious, the individual can still function in the real world, but the necessary coping devices have exacted a price in terms of human efficiency.

Moving on down the line, we mark progressive stages of disorganization. The coping devices have begun to fail and unconscious impulses threaten to break out—the mother who cannot bear to use knives or scissors because of a terrible fear that she might harm one of her children, the alcoholic whose binges have cost him his last job and his family, the well-to-do woman who regularly steals quantities of things she could easily afford, the boy who sets fires, the gang of kids who senselessly beat up a total stranger.

At the lower reaches of the continuum would be ranged the even more severely disorganized. Now the capacity to function in terms of reality is gone. Thinking becomes confused, emotions are inappropriate, behavior is impulsive and unpredictable. The individual can no longer fend for himself and must be hospitalized or institutionalized or otherwise cared for by others.

On the same continuum it would be possible to range one's own day-to-day or month-to-month level of vital balance. Sometimes we feel "on top of the world" and sometimes, in time of crisis, we are likely to be far less zestful, hopeful, productive and effective than usual.

The notion of a continuum is equally applicable to physical or emotional well-being. While our use has tended to concentrate on psychological aspects, it should not be forgotten that such a separation of terms is an artificial one, stemming from old concepts of mind and body. In reality this separation does not exist. In any case, however, it should be clear that "normal" is a relative term, shading by imperceptible degrees



The various levels of functioning or kinds of vital balance achieved by human beings represents points on a continuum.

into less and less normal. Rather than speak of "neurosis" and "psychosis," we should really speak in terms of degree of impairment of functioning.

Dr. Menninger suggests that it is time to abandon the terms "neurosis" and "psychosis," despite common usage. He would substitute the terms *dyscontrol* and *dysorganization*, signifying disturbance of control and organization, diminished satisfactions, experience of alarm and threatened breakthrough of aggressive impulses, which necessitate emergency coping devices. He feels that "neurosis" and "psychosis," along with the various diagnostic terms such as "hysteria" or "paranoia," tend to imply a specific disease or illness. This tends to freeze our thinking about such an individual. Having neatly pigeonholed him, we slip into the assumption that the "disease" will run an essentially predetermined course. It is all too easy, then, to lose sight of the fact that these are not separate entities, but variations on the same theme, the attempts of the individual to establish or reestablish some measure of balance. It is too easy to assume that "to lose one's mind" means that it is gone forever and to forget that, in each particular instance, there are forces working for reintegration as well as against it.[1]

The same plea is being taken up by psychologists, suggesting that the notion of mental "illness" or mental "disease" is a false analogy. A disease happens to an individual. Pathogenic organisms invade or there is malfunction of an organ. Here, however, we are dealing with patterns of interacting with others, with the individual himself as the principal agent. When these patterns show evidence of lessened appropriateness, it is suggested, we must examine the specific behavior involved. Then it may become possible to institute measures to help the patient learn new, more versatile, more effective ways of coping and adapting.[2, 3, 4]

We will use the traditional nomenclature in this chapter, since it seems unlikely to be abandoned so rapidly that the student will not encounter the various diagnoses of "mental illness." Her understanding will be assisted, however, if the continuum of levels of vital balance can be remembered, if the "cases" with whom she comes in contact can be viewed as individual levels of functioning which have compromised human effectiveness and human relationships. This will account also for the startling and sometimes troubling experience of seeing one's self in the case histories encountered in the psychiatric service. Human behavior is "all of one piece." Coping devices are used by each of us, and for the same basic purpose—to buy a level of equilibrium. The hopeful message from psychology and psychiatry is that new and better patterns of behavior can be learned. It is perfectly possible to move up the continuum as well as down.

We resort to labels in the following pages, then, with some apology. But in so doing, we will attempt to keep in mind what is going on underneath.

"Neurotic" Adjustments: The Center Area of the Continuum

Conversion hysteria. In this form of adjustment, the emotional conflict is transformed into physical symptoms. In the discussion of defense mechanisms, we noted the possibility of using illness to resolve conflict—developing an acute case of laryngitis in the face of a public-speaking engagement which one would rather not carry out or a splitting headache which prevents one from taking a dreaded examination. Conversion hysteria represents a greatly heightened version of this unconscious device. The laryngitis or headache tend to disappear within a short time and the individual, though temporarily limited, will probably proceed pretty much as usual. The physical afflictions of conversion hysteria, on the other hand, tend to be longer lasting and severely handicapping to life in general.

Conversion hysteria has been called the "great imitator" because it assumes so many forms. Blindness, deafness, paralysis, loss of sensation, epilepsy-like seizures, visceral dysfunctions, respiratory difficulties and speech disorders—each of these can have an emotional rather than an organic basis.

Conversion hysteria was described as far back as the time of the ancient Greeks. Hippocrates, the master Greek physician, felt that it occurred only in women and suggested that the uterus somehow became unattached and wandered throughout the body, causing a limb to become paralyzed or the ears to become deaf or the eyes blind. The term "hysteria" actually derives from the Greek word for womb.

We now know that conversion hysteria can occur in men as well as women. Its manifestations are particularly troublesome to military doctors during a wartime situation when men may develop hysterical symptoms which make them unfit for military service. The quaint notion of Hippocrates is interesting, however, when it is remembered that overdependency seems to be characteristic of the individuals whose defenses take the form of illness. These individuals failed, to a greater or lesser degree, to grow up. They tend to be threatened by the necessity for assuming adult responsibilities, including that of sexuality. If we assume that Hippocrates' "wandering womb" would render one incapable of the duties of motherhood, perhaps the sage Greek doctor was not too far from wrong!

It is important to emphasize once again that the individual whose illness is diagnosed as conversion hysteria is not pretending. Because his use of such a defense is wholly unconscious, he cannot be talked out of it. Nor will it help to explain the situation to him. Only an attack upon the conflicts which necessitated the use of the defense mechanism in the first place will bring behavior that is less costly in terms of human effectiveness. This is the task of psychotherapy, which will be discussed in the next chapter.

Obsessions and Compulsions

Do you remember the old childhood chant "Step on a crack and you'll break your mother's back?" You may remember half believing this, too, and meticulously avoiding the sidewalk cracks when walking to and from school and at play. Do you knock on wood to ward off an unfortunate event? Or become a little uneasy if a black cat crosses the path? Or toss some of the spilled table salt over your left shoulder? Or make a wish on the new moon?

These, of course, are superstitions. Most of us indulge in a bit of superstitious behavior now and then, even though we know full well that there is nothing to it. The folklore of every culture is filled with superstitious beliefs and rituals which are supposed to avert misfortune. In most instances the belief and the ritual go hand in hand. To spill table salt brings bad luck—this is the belief. Throwing some of the spilled salt over one's shoulder (to counteract the bad luck) constitutes the ritual. The ritual serves to set at rest the uneasy feelings aroused by the belief. If one is really superstitious the ritual becomes a "must," necessary to regain some inner peace in the face of threatening tension.

Neurotic obsessions and compulsions act like superstitions. An *obsession* is a persistent, unwelcome thought or idea which originates in the unconscious. Lady Macbeth, for instance, was haunted by the idea of a spot of blood on her hand. A *compulsion* is an act or ritual which serves, temporarily, to alleviate the tension or neutralize the obsession. Shakespeare's murderous queen rubbed her hands together over and over again as if washing them. The unconscious force which set this behavior in motion, of course, was the feeling of guilt which, unacknowledged, broke through in a disguised form.

Obsessions and compulsions almost always go together. Sometimes the obsessional factor seems to dominate and may take the form of intense, irrational fear which is called a *phobia*. The fear of heights or of enclosed places are common phobias. In other cases, the compulsion aspect is the most noticeable—the individual who steals unneeded items, who sets fires, who peeps in windows or who engages in motor mannerisms called "tics" is regulating unknown tension by rituals which often symbolize the underlying conflict.

Like all mental illness, the obsessional neurosis, compulsion neurosis and obsessive-compulsive neurosis are simply arbitrary points on the continuum of defensive behavior. Toward the more "normal" end of the continuum we would place superstitions and superstitious behavior. Then, moving down the line would come superstitious behavior which is caused by actual belief. Here, too, would probably be placed the many varieties of compulsive behavior which are not so marked as to interfere drastically with one's effectiveness as a person. This would include the individual who is always compulsively late or compulsively early for appointments, the housewife whose preoccupation with cleanliness keeps her scrubbing floors and washing woodwork beyond the bounds of common sense, the businessman with the penchant for minute and petty detail, the religious fanatic and others whose absorption in a "cause" engulfs all other aspects of life. At this point, the student may well be inquiring how compulsive behavior with its underlying unconscious force is marked off from ordinary behavior. Do we imply that all homemakers who wage a perennial battle with mud and fingerprints and grime are compulsive? Or that keeping a boy friend waiting while adjusting a last curl is compulsive?

Of course not. Compulsive behavior, like other defenses, is a protective device. It serves to allay the unconscious conflict which the individual has found impossible either to face or live with. Therefore it is highly necessary to the individual. Because he needs the protection it affords, the behavior is rigid and fixed. He cannot relax or be flexible in its execution. The compulsive housekeeper must clean frantically and continuously. To "let the house go" is wholly unthinkable. Cleaning takes precedence over everything else. The compulsive religionist is not content to hold his views himself; he seeks to impose them upon all others and cannot tolerate any discussion of the validity of his stand. The individual who is compulsively late is always late; he who is compulsively early grows anxious and tense out of all proportion to the occasion if something delays him. Compulsive behavior, then, is characterized by an extreme resistance to any kind of change.

To return to the continuum: Beyond the obsessions and compulsions which, though exceedingly crippling, may still be acceptable to society, we would find even less adaptive versions which render the individual dangerous to or inadequate for society—obsessions of persecution by means of death rays or telepathy, for example, and compulsions which take form in the meaningless (to most observers) gestures and posturing of the "schizophrenic."

Psychopathic personality. This phrase is used to describe a type of failure to grow up adequately. Normally, during the course of growing up, the child comes to accept the behavior code of his parents as his own. He may, on many occasions, be furious with his father for a punishment or frustration, but he also strives mightily to be like him. This involves feeling the way his father does about the things that are wrong or forbidden. This process, we have already learned, is called *identification*.

Unfortunately not all fathers or mothers are suitable objects for identification. In order to identify, the child must feel love for the model. Occasionally parents are cruel and harsh; sometimes they are dominating, hypercritical, openly partial to a brother or sister or downright indifferent and neglectful. A child who grows up under such unhappy circumstances fails to identify. Although he may learn to expect punishment or even brutal treatment when he has done wrong, he never develops the kind of conscience which will prevent the wrongdoing or which will punish him with feelings of guilt after a transgression. In addition, such a child, having never been loved, will not love. On the contrary he is likely to be extremely hostile, first toward the parents and then toward the society which they symbolize.

The hostility is manifested in later years through antisocial acts which are impulsive and relatively purposeless in character. This is the kind of juvenile delinquent who can give no reason for his destructiveness except "It just seemed like a good idea at the time." He may beat up a total stranger, not for revenge or for the purpose of robbery, but because he feels like it at the moment. These individuals commit the senseless, malicious crimes which are so hard to understand. They tend to be habitual offenders, turning up over and over again in court, almost as if deliberately seeking punishment. And indeed, though the deliberation is unconscious, this seems to be the case. It is as if the child incorporated into his personality structure only the knowledge that punishment should follow wrongdoing. He failed completely to accept any code for behavior as a part of himself, and therefore violates society's rules again and again. And since his conscience does not punish he looks for punishment from the outside. He rests more easily once the punishment is accomplished; in effect, he has "paid" and is now free to pursue his antisocial activities once more.

Alcoholism. It is only recently that we have begun to realize that alcoholism is a coping device and that it cannot be exorcised by lectures, shaming, nagging, humiliation, threats or entreaties. Alcohol serves the problem drinker in quite the same fashion as any other defensive technique—it temporarily eases internal tension. And since, like others attempting to deal with tensions which they do not understand, the problem drinker is unaware of the real reasons for his craving, his problems are never really solved. Therefore he must attempt to obliterate the inner pain over and over again. The pathological use of alcohol, of course, tends to multiply his problems. He may lose his job; he is likely to be tormented with remorse over what his drinking is doing to his family; he may run afoul of the law; he usually despises himself for his inability to stop drinking—and as his emotional troubles increase, so does the need for alcohol's comforting oblivion. So a vicious circle is created which can be broken only by an attack upon the underlying conflicts which have created the need.

Depression. Depression is another example of an arbitrary point on the continuum. All of us are subject to mood fluctuations of varying intensity. As a matter of fact, there is considerable evidence that our moods tend to form a certain rhythmic pattern of ups and downs which are quite independent of external circumstances. Each individual seems to establish his own cycle, although for many women it commonly parallels the menstrual cycle, with the low point immediately preceding or coinciding with the onset of menstruation.

The normal individual's mood swings do not radically affect his life, however. He simply finds his work easier, his relationships with others going more smoothly and life in general more satisfactory when he is "king of the hill," while daily tasks seem more onerous and he tends to be irritable and out of sorts during the periodic "blues."

The depression we speak of, on the other hand, is much more severe and long-lasting. Herein lies the popular idea of a nervous breakdown. The individual is tense and anxious. His body processes are slowed down so that every energy expenditure involves excessive effort. There is likely to be loss of interest in job, family and personal appearance. Sleep and appetite may be greatly disturbed. The individual feels that nothing is worth while in spite of the fact that to others his life situation may appear to be exceedingly good. Any well-meaning attempts to point out the discrepancy between the individual's mood and the relatively satisfactory state of his life, however, are foredoomed to failure.

Depression of this kind seems to be an unconscious self-punishing device. When psychotherapy is instituted we usually find a heavy burden of guilt relating to hostility. Let us talk about this for a moment, in an effort to understand how it might come about.

Hostility, hatred of another individual, is an emotion which we are taught that we should not feel. The reasons for society's ban on the emotion are, of course, quite obvious. Civilization would fall apart if all of our primitive passions were permitted to run rampant. Only the strongest could protect themselves from the violence of their fellow men. In order that people may live together in comparative peace it is necessary to learn to restrain violent emotions. We begin this training in early childhood as we teach the child that he must not indulge in his natural furies. The most common way of accomplishing this is to insist it is wrong to feel anger or hostility. When the child shouts "I hate you!" at his mother because she has interrupted his play to trot him off to bed, she is horrified and makes it known in no uncertain terms. To hate is wicked and he is a bad little boy to say such a horrible thing.

This presents a real conflict for the child. Because he is human and because all humans are subject to human emotions, he is inevitably going to feel angers and hatreds and aggressive impulses. No one of us can escape these emotions. They are an inherent part of our human emotional equipment. When Bobby is taught that such feelings are bad, that he should not have them in the first place, he has little alternative except to pretend that he does not have them. And, as we have seen, particularly in childhood when the mother's word is law, this is usually accomplished by repressing the unwanted feelings—pushing them back into the unconscious and thereby denying their existence. We have also seen that repressed emotions unfortunately do not always stay repressed. They continue to exist and to seek expression, sometimes obtaining it in disguised form, sometimes being manifested in bodily ailments, sometimes breaking out in a kind of general "blow-up," sometimes showing up in the form of nightmares, sleepwalking and other nocturnal disturbances.

In every case, too, it takes a certain amount of energy to keep the lid on the unconscious. All of us differ in the amount of repression we carry with us into adult life, and in the forms of release which we have learned to permit.

The individual who is subject to depression seems to carry an exceedingly heavy burden of repression. He is likely to have been a very conscientious child for whom loss of his parents' approval was extremely threatening. He was very probably "a good boy," striving with all of his little being to live up to their code for him. Unable to permit himself even a healthy degree of rebellion, he kept his natural hostilities tightly bottled up. He may even have made the denial of any hostility more secure by active overconcern for the well-being of those toward whom the hostility was directed (usually parents or brothers and sisters). So the hostility has continued to exist within in a rather undiluted form. Then, in adult life, some incident threatens to break down the protective wall of the unconscious. The individual seems to get a glimpse, as it were, of the underlying hatreds which he has fought valiantly to hide through the years. He reacts violently, with the overwhelming feelings of guilt and worthlessness which are at the core of any depression. The reaction is out of all proportion to the incident which sets it off. Indeed, the incident itself is not the cause of the depression, although it is commonly cited as such by the perplexed relatives and friends of the individual.

Psychotherapy for depression usually aims at giving the patient some insight as to the basic cause for his feelings of despair. Gradually the patient may be led to understand that the hostility he has so sternly repressed was probably justified by the situation he found himself in as a child. He learns that feelings, whatever they may be, are not to be condemned, but must be accepted as natural consequences of the human situation. When the individual learns to face his emotions fearlessly and frankly, the need for repression disappears. He discovers that it is possible to find ways of diverting the energies of emotions which are unacceptable to society and oneself without having to deny them completely.

We have implied in this discussion of the underlying causes for neurotic depression that there are better ways than repression to handle emotions such as hostility. Actually the problem of teaching a child to handle his emotions seems to involve two aspects. On one hand we will want to make sure that the child does not get the notion that because

Modes of expression for "bad emotions" must be found which will not endanger oneself or another.

he feels hostility, he is bad or unworthy. This requires that we ourselves understand and accept the fact that when any human is thwarted or hindered in carrying out his desires, he is going to feel angry and hostile. Since, as parents, we must inevitably stand between the child and his desires over and over again, our relationship with the child is not going to be all sweetness and light. As parents we will be objects of the child's hatred at times, as well as his love.

At the same time the child must be taught to control the expressions of his emotions. To feel hostility is not bad; it is simply natural. But we cannot permit the hostility to be expressed in ways which are injurious to others. Instead, we must help the child to find and learn harmless methods of dissipating the emotional energy.

Actually this is the crux of the problem of an optimum level of vital balance at any age level. The "bad" emotions must be dealt with, as consciously as possible, as logical reactions to frustrating circumstances, and modes of expression for these emotions must be found which will not endanger oneself or another.

"Psychotic" Adjustments: Toward the Lower End of the Continuum

We have already suggested the impossibility of sharply distinguishing between normal, neurotic and psychotic behavior. They tend to merge almost imperceptibly along a behavior continuum. We saw that normal behavior includes a large number of self-protective devices which enable the individual to carry on in the fact of severely thwarting circumstances. We noted that some of these devices are more efficient than others, that some tend to limit the individual's overall effectiveness as a person. We noted that the devices become more and more crippling as we move along the continuum from normal to neurotic, so that the defense mechanism which is described as *neurosis* enables the individual to function only in a limited fashion. His life effectiveness is severely handicapped by the particular defensive technique he has adopted. The compulsion to first spread a pocket handkerchief over everything one touches because of an obsessive fear of germs, for example, must certainly cause great inconvenience and distress in an ordinary workaday routine. However, the neurotic individual deals fairly frankly with the real world. He is making a rather gallant attempt to continue to function in it, in spite of the unhappiness caused by his conflicts.

As we move from the "neurotic" portion of the continuum toward the "psychotic" end, however, quite a different situation prevails. Now the protective devices destroy the individual's effectiveness as a member of society. Instead of making a partial, crippling adaptation to a real situation, the psychotic individual denies reality and reconstructs a world of his own in which he obtains his equilibrium. Our behavior continuum, then, might be constructed with *reality* and *unreality* at its two opposite poles. On the reality end we have normal behavior, that which functions, on the whole, satisfactorily in the world. The protective techniques can be ranged along this continuum in terms of the degree to which they distort reality. For example, *goal substitution*, which usually involves a frank appraisal of the frustrating situation and deliberate choice of an alternate goal, would rank close to the "reality" end. *Rationalization*, serving as a "cover-up" of the real reasons for behavior, would stand down the line, somewhat removed from reality. "Neurotic" symptoms are caused by denial (repression) of the conflict, but reality is not denied and therefore this kind of behavior might be placed about at the midpoint of the scale. As the coping devices become more and more unrealistic they are ranged toward the lower levels. "Psychosis," with its more or less complete denial of both conflict and reality, is then placed at the unreality extreme.

Paranoia. This type of adjustment represents an exaggeration of a fairly common pattern of adaptation. Here we have an individual who has never known love and therefore is unable to give love or to accept it in adult life. He sees the world as a hostile place because he himself is filled with hostility. In addition, the paranoiac is usually an individual with a driving ambition whose need for status and success is inordinately strong. Since he is unable to achieve all the success which he would like, the paranoiac protects himself from an intolerable sense of failure through delusions. A *delusion* is a false belief—it does not jibe with the facts of the real world and therefore places its holder down toward the psychotic end of our continuous behavior scale.

The two organized systems of delusions which characterize paranoia are known as *delusions of grandeur* and *delusions of persecution*. Although one or the other may appear to predominate, there is reason to believe that the patient uses both complimentary coping devices. The delusions of grandeur create the success he has always wanted. The reasons why real achievement has never satisfied him are evident from the extravagant contents of the delusion—"I am the greatest inventor the world has ever known" or "I am really a king's son" or "I am the founder of a new religious system." To balance the delusions of grandeur and to explain why such an important personage (according to the delusion of grandeur) does not receive the recognition due him, there are the delusions of persecution. "My enemies are trying to steal the plans of my great inventions," or "I must keep my royal identity a secret because of a monstrous plot against the throne."

Apart from the area of the delusions, the individual is usually in good contact with reality. This may enable him to pursue an outwardly rather ordinary life for years, undetected. Sometimes, however, the notion of being persecuted may prompt him to action in the form of writing crank letters, instituting lawsuits, or even committing murder.

Paranoia is the least common diagnostic category among the more severe forms of "dysorganization," accounting for approximately 2 per cent of the first admissions and less than 1 per cent of the resident hospital population. These figures, however, are misleading because of the nature of the illness. The individual's contact with reality is likely to be such that he is hospitalized only when the delusions of persecution drive him into an antisocial act.

On the other hand, a great many individuals are known to have "paranoid" tendencies. We usually dub them "eccentric" or "crackpot" or "the lunatic fringe." These are people who become obsessed with their idea of the hostility of others. The vitriolic racists are probably numbered among them, those who write poisonous anti-Semitic or anti-Negro pamphlets. The antivivisectionists who are convinced that the entire medical world has joined in a sadistic plot to torture animals may be another example.

The defense mechanisms at work in paranoia or in paranoid tendencies are exaggerated, but they can still be identified. *Projection* of the individual's own hostility forms the basis for the delusions of persecution. The delusions of grandeur are akin to a wildly extravagant daydream which is so much more acceptable than real life that the individual finally persuades himself it is true. Moreover, the delusion of persecution serves as a rationalization of the individual's failure to secure the status which he considers his due.

Manic-depressive psychosis. We have spoken of the normal fluctuations in mood which seem to occur in a cyclical fashion and to be quite unrelated to the external life situation, though we tend to account for our high or low feelings of the moment by citing the weather or some other factor or incident. Actually, the fluctuations seem to be related to the regular body rhythms so that during periods of mild elation the body processes are somewhat speeded up and we feel fit and fine, but during mild depression the body processes are slowed to a point where we feel generally low in energy and ability.

In addition to the normal swings of feeling, some of us seem to have an overall pattern of functioning which might be described as *mildly manic*. Such individuals seem to be almost indefatigable; they are into everything, on the go from morning until late at night. They are usually highly productive, able to get twice as much done as anyone else in half the time. They are usually leaders of organizations, the "spark-plugs" behind community projects, while living an active social life and seemingly at their best in the midst of a flurry of activity.

They can be contrasted with their opposite extreme, those of us who seem to operate consistently a little below par, who speak, think and act slowly and with considerable effort, who eschew the active for the sedentary life, who tend to take a pessimistic view of whatever is going on and who might be generally described as *mildly depressed*.

Both the individual swings of feeling and these general patterns of life style belong on the normal end of the behavior continuum because the individual's perception of reality is not unduly affected. In the manic-depressive psychosis, however, we find both a gross exaggeration of feeling and a wholesale distortion of reality. The extreme swings of mood drastically affect the entire personality. The period of high elation is termed the *manic phase* and the depressed period the *depressive phase* of this psychosis. Both phases usually occur in some related form, so that something of the elated mood either precedes or follows the depressed mood and vice versa. However, in some cases, either depression or mania is more markedly observable than its "flip of the coin."

The symptoms of this illness are dependent upon its form. During the manic phase, with its elation of mood, there also is great distractibility and frenzy of activity. The individual is likely to talk incessantly, and to demonstrate the far-flung thought associations which are called *flight of ideas*. He may indulge in antisocial acts; on the other hand, he may be exaggeratedly productive. Clifford Beers, in *The Mind That Found Itself*, tells of writing voluminously during a manic period in his own illness.[5] On one occasion he wrote the governor of his state a forty page letter describing plans for bettering the conditions in mental hospitals. Delusions of power or wealth or ability are frequently present.

During the depressed phase everything becomes bathed in deepest gloom. Physical and mental activity seem severely retarded. Ideas during this period follow a monotonous theme of utter hopelessness and unworthiness. The delusions of guilt which are usually present are overwhelming and irrational—i.e., "I have committed the most unspeakable crime in the whole world."

The individual who has resorted to this complex kind of coping seems to carry a tremendous load of repressed hostility. The dynamics of the depressed phase are similar to those at work in lesser depression—the individual is overwhelmed with guilt. He figuratively and literally hates himself for his hate. The depression represents an unconscious self-inflicted punishment of irrational severity.

We tend to learn from childhood that punishment serves to wipe out the consequences of our wrongdoing. All religions and all societies have institutions for easing the individual and social conscience. The punishment of the depressed phase seems to free the individual for the excesses of the manic stage when his regression permits a veritable orgy of intemperance. Much of the manic phase behavior is infantile, representing a kind of "binge" during which he indulges in every possible infantile satisfaction. It is as if all the controls established during growing up were tossed overboard.

However, the hold on reality is not completely lost. The individual frequently reestablishes a degree of balance after the penance of depression or the fury of self-expression. Controls are gradually resumed and a "normal" period may intervene, lasting perhaps for several years before the cycle of depression and mania sets in again.

Schizophrenia. Schizophrenia was once called "dementia praecox," which means a youthful loss of mentality. We now know that this severe "dysorganization" can occur in persons of all ages, although the highest incidence is between 20 and 30 years of age. What is perhaps more important, we now realize that the mental processes do not progressively diminish in efficiency, but rather become split off from their proper relationship to social and physical reality. The mental processes of the schizophrenic patient are by no means without rhyme or reason, but are quite meaningful in the strange, inner fantasy world with which the individual has replaced reality.

Schizophrenia represents the most extreme form of escape from life's problems. The individual literally withdraws from the real world and regresses to a state similar to that of the self-involved infant who does not yet know what is himself and what is the external world. However, the infant will strive through the growth process to master and understand the world, while the schizophrenic turns inward and backward, seeking the vaguely remembered paradise of his earliest existence. His dreamlike state does not wholly shield him from the nightmares of his conflicts, however, and through delusions and fantasy he still tries to find the significance and acceptance he craves.

It has been customary for psychiatrists to describe four different types of schizophrenia based upon different combinations of symptoms. For present purposes we need be concerned only with the characteristics common to all of them. The basic symptom which runs through all the forms of schizophrenia is withdrawal to a world of fantasy, delusion and hallucination. In addition the patient may express bizarre thought associations, in a disconnected flow of words described as "word hash." Although the torrent of unconnected phrases is meaningless to the ordinary observer, psychotherapists become quite adept at translating the schizophrenic thought processes, finding the "word hash," the delusions and hallucinations, meaningful in terms of the patient's life history.

Schizophrenia is the most serious of the psychoses because it represents such a complete break with reality. It affects the largest number of patients hospitalized for mental illness and, because "dysorganization" is so severe, these individuals may remain in the hospital for long periods of time.

Paranoia, manic-depressive psychosis and schizophrenia are usually termed *functional psychoses* because, to date, it has not been possible to demonstrate actual brain or nervous system pathology responsible for their origin. In contrast to these are a number of *organic psychoses* caused by lesions of the nervous system, brain tumors, certain drugs or high fever. Since the organic psychoses will be detailed during the student nurses' psychiatric service, we shall not discuss them here.

Our purposes will be served if this chapter introduces the student to the concept of the continuity of behavior; if she begins to understand that "neurotic" and "psychotic" behavior are not mysterious phenomena which occur inexplicably, like Jovian thunderbolts of mythology, but are simply manifestations of inner processes to which all of us are subject.

Summary

1. Terms used to describe the behavior of human beings, such as "normal," "neurotic" and "psychotic," can be depicted on a continuum representing levels of vital balance. "Normal" functioning would include attributes of zest, hope, productivity and effectiveness, placed at the top to symbolize "high-level" functioning. Individual vital balances could be ranged on this continuum in terms of the degree to which the optimum characteristics are evidenced in behavior. The center area would include those who are functioning in the real world, but whose coping devices are failing and in whom degrees of "dysorganization" of functioning can be observed. At the lower extreme of the continuum would be placed the progressive failures of control and of contact with reality.

2. Use of these terms and various diagnostic categories should not blind us to the relatively and continuity of human behavior. The individual labeled as "neurotic" or "psychotic" is involved in the same human

process of attempting to regulate the tensions that threaten equilibrium as the rest of us.

3. Coping devices that interfere a great deal with the individual's effectiveness include:
    a. Attempts to deal with tension through development of severe and crippling somatic disorders—hysteria
    b. Attempts to deal with tension by rituals and avoidance of feared situations—obsessions and compulsions
    c. Attempts to deal with tension by ingestion of substances that produce temporary oblivion—alcoholism
    d. Attempts to deal with tension by self-punishment—depression
    e. Attempts to deal with tension by means of episodic breakthroughs of aggression, usually displaced—psychopathic personality

4. Coping devices that represent a more or less complete break with reality include:
    a. Projection of extreme hostility and rationalization of failure, both exaggerated and unrealistic—paranoia
    b. Extreme degrees of self-punishment and release of repressed impulses—manic-depressive psychosis
    c. Extreme break with reality and retreat to a fantasy world—schizophrenia.

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Chapter 16 "MIND AND BODY": PSYCHOSOMATIC MEDICINE

It is to be hoped that including a separate chapter on psychosomatic medicine will not enforce a false compartmentalizing in the mind of the student. Logically, this discussion might have taken place under "coping devices," for as we have seen, development of physiological symptoms is a very common defense mechanism. This can range from a simple headache or stomach distress to crippling paralysis or blindness or deafness.

Sometimes an organic basis can be discovered or postulated (such as vascular changes caused by emotion which might result in headache), sometimes not. We are not sure of the process by which psychologically based symptoms may turn into actual organic pathology.

Hans Selye has worked out a theory which describes the physiological reactions to psychological stress.[1] He believes that prolonged tension can result in a general exhaustion of what were, at first, emergency bodily reactions. In such case the increase in blood pressure or the increase in gastric acidity or other once-temporary changes many become chronic. The organism no longer "swings back" to normal functioning.

Menninger places more emphasis upon the somatic complaint as a coping device, usually with symbolic significance and usually without discernible physiological basis.[2] He, too, suggests that at this stage it is probably still reversible, but if the disabling adaptation continues for a period of years, it may well result in organic disease.

In any case, the emotional components of physiological ailments must be understood as another manifestation of the inexorable human process of maintaining a measure of vital balance. As in all human behavior, we still have to reckon with the genetic factors, with the life history and habitual patterns of coping, and with the specific conflicts and stresses and needs which combine to move the individual up or down the scale of effective functioning.

The following discussion, then, is intended as a supplement to the previous consideration of frustration, coping devices and the continuum of the kinds of equilibria achieved by human beings.

Mind and Body

The concept of an emotional basis for organic dysfunction arrived relatively late to modern medical practice. The early idea of *mind* and *body* as separate entities, plus the rapid advances in bacteriology and pathology, combined to place the emphasis of medical theory upon purely somatic factors of infection and tissue change in disease.

It was not until the work of Sigmund Freud and others demonstrated the possibility of disease occurring without organic pathology that modification of medical theory began to take place. Particularly within the past two decades, great strides have been taken in the field of *psychosomatic medicine,* the search for emotional factors in organic disorders.

Actually, every illness must be considered psychosomatic. It is inevitably a frustration. It produces fear and anxiety, involving emotional changes with accompanying physiological effects. However, the term *psychosomatic* has come to refer to the bodily dysfunctions which seem to have an emotional as well as an organic *basis,* and it is in this sense that the term will be used here.

Our everyday vocabulary pays tribute to the fact that emotions are reflected in physiological reactions. Fear can be described by saying "My heart stood still." Irritation or exasperation gives us a "pain in the neck." Distasteful experiences "make the flesh crawl" or "leave a bad taste in the mouth." We may emphasize anger by stating "It makes my blood boil." A popular song of love says "You leave me breathless—you take my breath away."

We have already studied some of the bodily manifestations of strong emotion. We noted that the physiological accompaniments of fear and rage seem designed to prepare the organism for efficient "fight or flight." These widespread physiological changes testify to the complex interrelationship between mind and body. Although the distinction between mind and body still lingers in our vocabulary, the individual must always be regarded as a whole, with every pattern of behavior considered a total response of the entire organism.

Apart from recognition of the intimate, mutual functioning of *psyche* and *soma,* however, we have many more questions than answers at present in the field of psychosomatic medicine. How does the "choice" of a psychosomatic symptom occur? Do certain constitutional factors translate longing for love into peptic ulcer rather than tooth decay, for example? Do certain emotional common denominators underlie specific syndromes?

Some investigators believe this to be the case. Franz Alexander suggests that repressed feelings of hostility and aggression may be expressed through the sympathetic nervous system, resulting in vascular hypertension and cardiac diseases, or in the hypertensive striated musculature associated with rheumatoid arthritis. On the other hand, repressed feelings of dependency, the wish to receive love, are related to activities of the parasympathetic nervous system which is concerned with storage and retention, resulting in gastrointestinal symptoms or troubles of the respiratory tract.[3]

Other investigators, however, point to the fact that a variety of psychosomatic disturbances may be found in the same person, indicating that the effects of emotion are not limited to one system or organ. Furthermore, it is not possible to differentiate strictly between diseases due to parasympathetic and those due to sympathetic dysfunction.

Descriptions of psychosomatic disorders must therefore be considered as tentative formulations of the problem, suggestions of today which may well yield to the further inquiries of tomorrow.

Psychosomatic Disorders

Gastrointestinal system. We have seen that the infant's very survival is wholly dependent upon maternal care. His earliest experiences revolve about the sequence of hunger pains and the relief of that discomfort through feeding. Feeding tends to serve as the first pleasurable experience, not only because it alleviates distress, but also because it is the chief mode of contact between mother and child. Being held and caressed, feeling warm and comfortable and finally dozing off with a full stomach—these constitute the ingredients of the infant's first relationship with another. Small wonder, then, that the equation "Food equals love" lingers in some form in each of our lives.

The longing for a maternal, protective kind of love seems to play an important part in several kinds of gastrointestinal disorders. Peptic ulcer, for example, is so often associated with an outwardly aggressive, ambitious, "go-getting" type of personality that it is sometimes called the "Wall Street syndrome." It is believed that these individuals tend to hide their basic dependent needs behind the facade of virile masculinity. The denied passive yearnings seem to result in a hypermotility, hyperemia and hypersecretion of the stomach mucosa which apparently induces the erosion and hemorrhages of peptic ulcer.

Less acute are the gastrointestinal symptoms of lack of appetite, recurrent nausea, heartburn and epigastric pain. Not infrequently these patients flit from doctor to doctor in an effort to obtain relief. Before physicians became alerted to the possibility of emotional factors underlying the distress, resort was often made to surgery after conservative treatment failed.

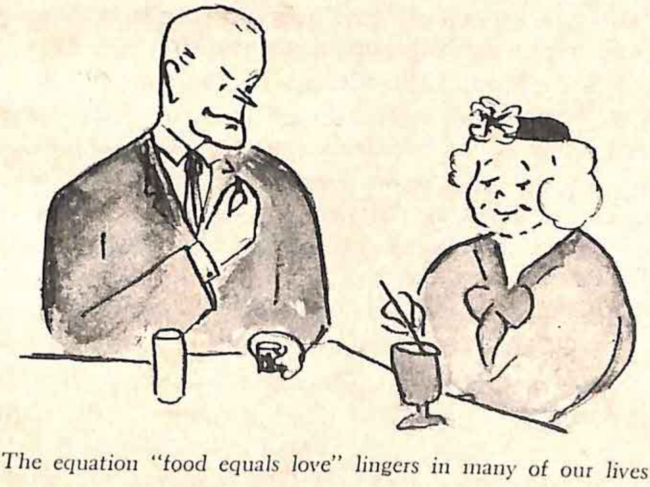
The stereotype of the petulant society matron detailing her latest operation points up the possibility of a secondary gain from psychosomatic symptoms. The primary gain, of course, is the relief from the tension caused by unrecognized conflicts. The patient may become relatively free from the mental discomfort of anxiety—a freedom secured at the cost of organ dysfunction. The secondary gain is the personal attention and sympathy which one can command as the result of illness.

Obesity, in both children and adults, sometimes represents the use of food as a substitute satisfaction when the need for an enveloping, protective kind of love is thwarted.

The mouth, too, may be linked with the infantile satisfactions of simply receiving love. Dentists are becoming increasingly interested in the possibility that rampant tooth decay reflects unconscious emotional processes.

In contrast to the passive, dependent, nutrient associations commonly attached to the upper portion of the alimentary canal, the colon and rectum seem to serve quite another psychological function. Constipation, diarrhea, spastic colon and mucous colitis are some of the disorders which may have roots in the early conflict for independence between parent and child. One of the first demands made upon the youngster is for modification of his bowel habits. This usually occurs at the time when the child is making his first bid for independence. Toilet training sometimes serves as a focus for the struggle of wills, particularly since the child may discover he can defeat the parent by "holding back" if he chooses.

Conflicts of this nature always involve hostility and resentment. It



The equation "food equals love" lingers in many of our lives.

is suggested that unconscious feeling states of anger and hostility centering around an unresolved conflict between dependence and independence may sometimes in some fashion become manifested in colon dysfunction.

Respiratory system. Asthma, hay fever, chronic rhinitis and even the common head cold seem to have an emotional factor. As in other instances of psychosomatic disorder, we are not sure of the exact process by which emotional conflicts become translated into respiratory symptoms. We are aware, however, of the changes in respiration which are occasioned by fear or anger. We are also aware of the close link between crying and respiration. Respirations increase during crying, and frequently remain disturbed for some time after the vocal and motor activity cease.

A number of studies have been made in an attempt to establish a common "personality profile" for patients suffering from bronchial asthma. Although these attempts have failed, French and Alexander believe that they may have discovered two factors common to the affliction. The first seems to be an excessive, unconscious fear of separation from the mother. The second seems to be an inability to express anxiety over this specific dread through crying, though the patients otherwise may be able to cry easily and profusely. They suggest that the repressed crying is responsible for the asthmatic symptoms which are similar to the respiratory response which follows a period of crying or sobbing.[4] Further research into the phenomena related to the early development of crying and breathing irregularities may offer clues regarding the development of asthma.

We know little more about the emotional components in hay fever, except that the attacks may be made worse or are sometimes initiated by emotional situations. As in the case of asthma, the large allergic element cannot be ignored, but whether the sensitivity to certain allergens is congenital or hereditary, or whether early emotional conflicts can influence mucous membranes to become sensitive has not yet been determined. In some cases patients undergoing psychological treatment become resistant to their specific allergens. In others, desensitization may be accomplished by the therapeutic efforts of the allergist. Neither psychiatrist nor allergist can afford to ignore what appear to be two coexisting factors. Again, further investigation is likely to yield more satisfactory answers.

Sore throats, sinusitis, rhinitis and colds frequently seem to be related to emotional stress at the onset. It is believed that emotionally caused hyperemia of the nose and throat may provide a favorable culture medium in which the ever-present organisms then thrive and multiply. One investigator notes that the sore throat sometimes serves as a somatic expression of conflict between repressing anger and expressing it in words. He cites examples of patients in psychotherapy who develop sore throats just before their angry feelings break through and are finally communicated in speech.[5]

Work with cortisone and ACTH also suggests the possibility that emotional stress changes the cortisone level of the body and thereby lowers resistance to pathogenic organisms.

Cardiovascular system. Here, too, our specific knowledge is scanty. That the heart is a very sensitive organ which reacts vigorously to both physical and emotional stimuli is certainly recognized. Marked changes in the heart rhythm and rate are associated with fear and rage. It seems very possible that prolonged unconscious anxiety during which the body is, in effect, set into high gear for a fight or flight which never takes place, may impose a strain upon the heart and the vascular system, finally resulting in actual tissue damage.

Deeply repressed hostility and aggressive impulses are thought by some psychiatrists to underlie many cases of hypertension. It is impossible to assert, however, that emotional stress is the cause of hypertension. At the present we are confident only that the emotional factor must be considered in the etiology, course and treatment of the disorder.

Genitourinary system. Even in our age of increasing sexual enlightenment, the functioning of this system tends to be charged with fear, guilt, disgust, shame and hate. It is little wonder that emotionally caused disturbances are so common here.

Consider, for example, our cultural attitudes toward menstruation. Common use of such terms as "the curse," "sick," "unwell" to refer to a normal physiological process indicates that we still tend to respond to this period, unconsciously perhaps, with the dreads and superstitions of much more primitive cultures. Girls become aware of taboos and old wives' tales anticipating the first menstrual period very early in life. Often the onset comes as a surprise or shock; frequently it is awaited with apprehension. To call menstruation "the curse" certainly does not help to develop favorable attitudes toward it.

Add to this the fact the menstruation has a definite meaning for all women. It is an incontestable token of womanhood. The degree to which the badge is accepted and welcomed will depend upon the unconscious attitudes toward femininity which have become an integral part of the woman's personality. If the role of woman—wife and mother—is colored with anxieties and fear, these are reemphasized once a month during the period which dramatically symbolizes that role.

Impotence in men, frigidity in women, and sterility in both sexes have, in many instances, responded to psychotherapy.

We have already touched on some of the factors which lead to an inability to develop normal man-woman relationships. To pass successfully through all of the developmental stages toward becoming a mature adult is an exceedingly complex process. It requires having been loved generously in infancy and childhood. It requires acceptance of one's own sex and satisfaction with one's sex role. It requires emancipation from parents in order to build new and wholesome relationships in a family of one's own. Untoward circumstances during any of these stages can thwart the normal course of development, crippling the individual's emotional capacity for successfully completing the cycle of life. The emotional incapacity can apparently be reflected in a physical incapacity for healthy sexual relationships or reproduction.

The menopause, associated as it is with aging, is another test of emotional security. Hormone therapy may alleviate unpleasant vasomotor symptoms, but it is generally acknowledged that the emotional conflicts of this period tend to make the discomforts more pronounced. Our own culture, with its exaggerated accent on youth, undoubtedly plays a part in the dread of approaching age. Mature personalities, however, find compensations in a new freedom, developing greater social consciousness, discovering new fields of learning and using the increased leisure time for new accomplishments.

Frequency of urination and enuresis are probably the most common functional symptoms of the urinary tract. Organic factors must, of course, be ruled out by the attending physician.

That anxiety increases urinary output is a well-observed fact. The popularity of the lavatory before important examinations, public appearances, dental appointments or other dreaded occasions attests to this. Unconscious anxiety may produce a similar effect which becomes chronic in its manifestations.

Enuresis seems to occur most commonly in tense, hypersensitive children. The emotional factor is often found to be both a desire to punish the mother and a bid for her attention. The child accomplishes his unconscious aggressive impulses through the inconvenience caused the parent and, in effect, asks symbolically for the care accorded a baby. If this is the case, treatment must include improving the child's environment. The several contraptions on the market which give the youngster a slight electric shock when wet may, indeed, succeed in eliminating the symptom, but if the basic source of tension is not eliminated, another symptom is likely to take its place.

Musculoskeletal system. The close, oftentimes symbolic, relationship between the musculoskeletal system and emotional states is shown in the way that actors and singers assume characteristic postures and gaits, thereby creating within themselves the attitudes conducive to performance of certain roles. The bully swaggers. The villain crouches. Dejection is depicted in the sagging of shoulders. The flirt swings her hips. The general stands with feet braced, rigidly erect.

Functional musculoskeletal symptoms take a variety of forms. Tics, tremors, spasms, paralysis, chronic backache, and even convulsions may all reflect threatening life situations. In the bizarre posturings of the schizophrenic patient certain psychiatrists can see meaningful symbols of the patient's life history. Rheumatoid arthritis frequently seems to occur in rigid, "stiff-necked" individuals whose interpersonal relationships bear a definite stamp of hostility, suggesting an emotional factor in the affliction.

Psychiatric case histories point up the fact that the symptom frequently carries an unconscious thought content. An eight-year-old youngster was brought to the child guidance clinic because of an involuntary mannerism which irritated and embarrassed his parents. He constantly twitched his right shoulder and, at the same time, raised the forearm. His history revealed many conflicts and frictions between parents and child. The gesture was found to represent the conflict between his desire to strike out aggressively and his fear of doing so. Raising the arm symbolized the wish to hit; twitching the shoulder represented blocking of the impulse. The gesture, in effect, "acted out" the conflict and released some of the energy bound to it.

Dermatological symptoms. Studies of the relationships between the emotions and lesions of the skin are, as yet, only suggestive. We are quite aware that the skin serves as a rather sensitive barometer of general well-being. We know, too, that many different kinds of skin afflictions seem to appear or grow worse under conditions of emotional stress. Adolescent girls and boys mourn the facial blemishes which often appear just before an important social engagement. Exacerbations of a dermatitis often occur during certain stages of psychotherapy, as the unconscious emotions become stirred up. During a state of depression the patient's skin often becomes pale, wrinkled, dried and rough.

Feelings of worthlessness and of being unloved are often uncovered in psychiatric studies of patients with dermatological symptoms. Intense itching is sometimes thought to be a manifestation of hostility, usually toward the mother-figure. However, at the present time it is still impossible to state precisely the relationship between specific emotional conflicts and skin manifestations.

Special Nursing Situations

The field of psychosomatic medicine is still in its infancy, though it is fast being developed into a systematic body of knowledge. The next decade should see much progress toward this goal. Even our present meager knowledge, however, points up the complex, interlocking association between the patient's state of mind and his bodily functioning. For the nurse, development of habitual sensitivity to spoken and unspoken needs of her patients is as important as the accurate recording of TPR's. Ability to "tune in" on the emotional wavelength of each patient, to approach each in terms of his unique self rather than in terms of his affliction, demands the highest devotion to the practice of nursing as an art. If, on the other hand, the patient becomes both in mind and speech "that colostomy in Room 206," then the practice of nursing degenerates to a mere mechanical application of skills.

Fear of the unfamiliar hospital situation, reactions to pain, worry over family, finances or job, anxiety about the outcome of surgery, antagonism toward a wardmate—these are some of the common problems which will come to the nurse's notice. Certain of these problems belong in the province of the social worker. Others must be referred to the physician. Still others may be alleviated by the thoughtful, sympathetic attention of the nurse herself. Several of the special services present specific emotional factors with which she must deal. It may be helpful to speak briefly of these factors.

Pediatrics. The hospitalized child faces two emotional crises, the fact of his illness and the terrifying separation from his parents. The impact of the separation is hard to describe. Whether the parents are thoughtless, selfish and harsh, ignorant or neglectful or most loving and kind, they represent whatever security the child possesses. Their absence may spell desertion even for children who are "old enough to know better." It is this, far more than the painful hospital procedures, which creates the emotional trauma for the hospitalized child.

We are recognizing this rather belatedly. Many hospitals still severely restrict hours during which parents may visit, maintaining that the parents "just upset the child." Some few still adhere to the barbaric custom of excluding parents altogether.

It is perfectly true that the anxiety of the parent may be sensed by the child, making him harder to handle, but it is also true that a child can undergo a fearful experience without lasting harm, provided the foundations of his security are not shattered. Far better, for the child's sake, is an anxious, hovering parent than no parent at all.

Nurses, however, do not make hospital rules. Established practices change slowly. Few hospitals are equipped to provide the ideal situation —one in which parents are permitted to "room-in" so that the child has the comfort of their presence at all times. Even such a happy arrangement cannot prevent the child from being left alone for what, to him, seem interminable periods of time when parents must attend to responsibilities at home or on the job.

The nurse can become the parents' invaluable ally, both in preparing the child for the hospitalization and in making it as tolerable as possible She may have the opportunity to suggest "play acting" a forthcoming hospital experience with the child to help lessen his fear of the unknown. In such a case the nurse will familiarize the parent with some of the hospital routines. She should explain clearly the rules on parental visits, so that the child can be told that "Mama will be sitting by your bed when you wake up" or "Mama will be waiting to come and see you as soon as the nurse says it is all right." One mother, whose youngster was to have his anesthesia in the operating room, was given a surgical mask beforehand by a thoughtful nurse. Mother demonstrated the mask at home, the child played with it and tried it on himself. This mother reported that the little boy, upon being wheeled into the operating room and glimpsing the masked figures, commented happily "Everybody is playing peek-a-boo!"

Of course, advance preparation is not always possible nor it is certain to produce a calm and easily managed youngster. Hospitalized children are likely to be apprehensive and upset. Regressive behavior, complicating nursing routines and causing inconvenience on the busy pediatric floor, is to be expected. Youngsters who are "much too old for that sort of thing" may wet the bed, soil themselves, or return to a very early form of comfort—thumb-sucking. They are more than likely to be uncooperative. They may require help with meals. Some scream hysterically; others sob quietly hour after hour, refusing any comfort. The nurse who understands and accepts such behavior as the child's defensive reactions to threat will be a far better pediatric nurse than one who is annoyed with the "spoiled babies" under her care.

Pediatric nursing will tax all of the nurse's ingenuity and thoughtfulness. Most psychiatrists agree that a hospital experience can leave a lasting mark upon the child's personality. Whether justified or not, the occasion is almost always filled with alarm for the youngster. Efforts to reassure him sometimes seem futile, yet with persistent tenderness and compassion most children can be won over into feeling that they are among friends.

Obstetrics. Grantly Dick-Read, a British physician, produced a book entitled *Childbirth Without Fear* which created a flurry in the field of obstetrics.[6] One need not become doctrinaire or go overboard for his ideas on "natural childbirth" to give him credit for reminding us that a fearful, tense obstetrical patient creates much of her own pain. The contractions of the actively laboring uterus represent one of the most powerful muscular forces known to man. The patient in labor is caught up in a tremendous process over which she has little control. It cannot be stopped or "turned off" for even a minute. She has very likely been exposed since early childhood to all kinds of appalling tales about childbirth. Knowing little of how childbirth progresses through definite stages, the patient tends to panic as the contractions become more intense, using the muscular force of her body in a vain attempt to counteract the labor contractions. The opposing muscle forces then create a very real pain, the patient becomes more terrified, her muscles more tense and the cycle of pain and fright is created.

Dr. Dick-Read suggests that the pain of childbirth, then, is primarily emotional in origin. He documents his thesis with case studies of patients who have been thoroughly prepared for the experience they will undergo,

The comfort of the nurse's quiet companionship helps prevent panic.

the stages of labor detailed and special training instituted to enable the patient to relax completely, thus permitting the uterus to contract without opposition. His method has, indeed, helped many a woman to give birth without the necessity for drugs or anesthesia, and therefore to experience the extraordinary pleasure of hearing the baby's first cry as he is ushered into this world.

The fact that some advocates of the Dick-Read method become "disciples" insisting that any use of drugs or anesthetic during childbirth is unwarranted without regard for individual differences in pain threshold or even in ability to relax, does not negate the chief value of Dr. Dick-Read's work. His emphasis upon fear of the unknown as perhaps the most potent of fears may help doctors and nurses to realize the value of patient education, of explanations of the birth process so that the patient can know what to expect. Even so small a measure as encouraging patients to speak of "contractions" rather than "pains" may assist in developing a better emotional attitude toward childbirth.

Dr. Dick-Read stressed the importance of the physical presence of the doctor or nurse in the labor room, particularly as the cervix approaches full dilatation, or in the case of a patient who appears the least bit anxious. Doubts, fears and apprehension rise in a great crescendo when one is frightened and alone. At such a time it is not enough to know that the nurse is within easy reach of the push-button signal. The patient is not likely to call in the nurse simply to tell her "I am afraid and lonely." If, however, the nurse remains in the labor room, the comfort of her quiet companionship helps to prevent the mounting panic which might otherwise occur.

To bring reassurance and allay fear are two of the nurse's most important duties on every service in the hospital, but perhaps on no other floor will she find such a dramatic correlation between the reduction of fear and the lessening of physical suffering as is possible on Obstetrics.

Chronic illness. Patients who have become chronically ill must undergo a painful process of reorientation. The diabetic can no longer eat exactly as he pleases. The cardiac patient may have to curtail some of his former activities. The patient with a colostomy must look forward to inconvenience, annoyance and, possibly, some occasions of embarrassment. Like the physically handicapped, the chronically ill face the problem of learning to live with their affliction.

Each patient brings to this problem his own psychological strengths and weaknesses. For each, the illness will have a different meaning. For some it represents complete and utter defeat; for others, a test of courage and fortitude. Some will show visible signs of despair. Others may succeed in masking their anxiety. Still others may possibly welcome this chance for sanctioned dependency.

For many of these patients, the hospital experience may spell the difference between a good or a bad start toward the necessary adjustments in living habits. Frequently, in these cases, the nurse must act as a teacher —instructing the diabetic in the administration of his insulin, for example, and in the habits of personal hygiene which he now must follow. In her teaching, as in all other aspects of nursing care, she must know her patient well. It is not enough to provide exact directions about insulin when the patient's attitude and manner indicate clearly that he has decided there is no hope for a diabetic and better, therefore, a short life and a merry one. Nor is it enough to detail the careful regimen to be followed by a cardiac patient who must return home to care for four small, active children.

This is not to suggest that the nurse can solve all such problems by herself, but the importance of her careful, detailed observations of the patient's attitudes and feeling states as well as his physical progress cannot be overstressed. As the member of the medical team in most frequent contact with the patient, she can often catch hints of emotional undertones that others might miss. A young and outwardly serene hysterectomy patient, for instance, may reveal to the nurse her haunting fear of premature aging which a talk with her physician could set to right.

Our responsibility to the chronically ill, then, is not limited to the mere treatment of the disorder. Our sights must be set upon the larger hope of returning to society an individual who has accepted his affliction and is determined to make the best of it.

Geriatrics. The problem of the aging is looming ever larger in our society. Advances in medicine insure a significantly longer life for most of us. Almost every one of us will some day face the problem of age, first in our parents and then for ourselves.

The emotional conflicts of aging seem to cluster about the dilemma of lack of productivity, of feeling worth while. Life for the retired farmer or businessman or woman whose children have grown tends to lose meaning. After years of useful endeavor, arbitrary retirement at the age of 65 signifies to many a man that he has been "put out to pasture," and he may find his leisure hanging heavily on his hands.

Often associated with aging are organic changes of the brain tissue which bring about personality peculiarities. Petulance, querulousness and childishness are frequently linked with senility. It must be noted, however, that the mental disturbances connected with aging increase sharply around the age of retirement for men and, for women, at an age some ten to fifteen years earlier—apparently at about the time the last child leaves home. Specialists in the field of gerontology point out that it cannot be assumed that organic deterioration tends to coincide so specifically with these periods in life, and suggest that the feeling that one's usefulness is over plays an important part in the onset of these disturbances.

Experts in this field are deeply concerned with the fact that the majority of our people seem to give scant thought to preparation for the "golden years." They tell us that practice in the creative use of leisure time must be started early in life, and that plans for retirement years should be started in the thirties and forties. They insist, furthermore, that our entire society must turn its attention toward making full and constructive use of the talents and abilities of its older members.

The field of gerontology is one in which the nurse should become increasingly active. As a member of society, she has the responsibility to add her voice and her understanding to the working out of solutions to the problems of aging.

Summary

1. There is increasing awareness of the emotional components in all illness and of the possibility that many organic disfunctions have an underlying emotional basis.

2. Any one or several of the body systems may be so affected. Those discussed in this chapter include:

- a. Gastrointestinal System:
  - Peptic ulcer
  - Lack of appetite, recurrent nausea, heartburn, epigastric distress
  - Obesity
  - Tooth decay
  - Constipation, diarrhea, spastic colon, mucous colitis
- b. Respiratory System:
  - Asthma
  - Hay fever

    Sore throat, sinusitis, recurrent colds
  c. Cardiovascular System:
    Heart disease
    Hypertension
  d. Genitourinary System:
    Menstrual difficulties
    Impotence, frigidity, sterility
    Menopause
    Urinary frequency
    Enuresis
  e. Musculoskeletal System:
    Tics, tremors, spasms, paralysis, chronic backache, convulsions
    Rheumatoid arthritis
  f. Dermatological Symptoms:
    Adolescent manifestations
    Itching and lesions

3. Each and every patient offers the nurse an opportunity to demonstrate her understanding of the emotional factors which interlock with somatic functioning. As the individual most intimately associated with the patient in day-to-day relationship, she can often become aware of fears, worries, attitudes and antagonisms which could impede recovery.

4. Many of the special services present specific emotional problems:
  a. Pediatrics:
    Separation from parents
    Fear
    Regressive behavior
    Crying, uncooperative behavior
  b. Obstetrics:
    Fear of the unknown
    Panic
  c. Medicine and Surgery, Chronic Illness:
    The problem of learning to live with physical handicap
  d. Geriatrics:
    The problem of helping the aged retain a sense of significance

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Chapter 17 PSYCHOTHERAPY: REGAINING THE VITAL BALANCE

People in distress. Bill, afraid he is "going to pieces," unable to concentrate on his work or to sleep, perspiring excessively and lighting one cigarette from another. Mrs. Jones, whose eight-year-old daughter has been discovered taking small items from the lockers at school. Becky, convinced that the girls with whom she works are talking about her. Sam, whose record of inability to get along with the boss keeps him moving from job to job. Where can they go for help?

The nurse, carrying out her responsibilities as an educator, is likely to find few fields as challenging as that of mental well-being. Because of her status as a professional woman, troubled people will seek her counsel. Every nurse will have numerous opportunities to help pull down the walls of ignorance, myth and superstition which surround "mental illness."

The concept that those in emotional distress ought to seek professional help, though spreading slowly. has not yet won widespread acceptance. Mrs. Jones may talk freely about the details of her daughter's tonsillectomy, but she is likely to be embarrassed and reticent about their trips to the child guidance clinic. Bill may consult a whole series of physicians about his "jumpy stomach," but indignantly deny a suggestion that the problem is emotional. Whether she acts in the capacity of professional consultant, friend, neighbor or relative, the nurse's calm understanding that disorders of human functioning may be produced by past experiences can reassure troubled individuals and direct them to the expert help they need. This in no way implies that the nurse's knowledge of psychology equips her to act as therapist. It means that, just as she would counsel someone complaining of pain in the lower left quadrant to seek medical advice, so will she know the importance of professional assistance when human relationships become precarious.

Who Is Qualified to Help?

It is sad but true that charlatans and quacks thrive on human misery. Walk down almost any city street and note the signs advertising "psychological" help for all the problems of human existence. There are still some states without laws which restrict the use of the title "psychologist" to those who are specifically trained.

The extravagant promises of the unscrupulous testify to their fraud:

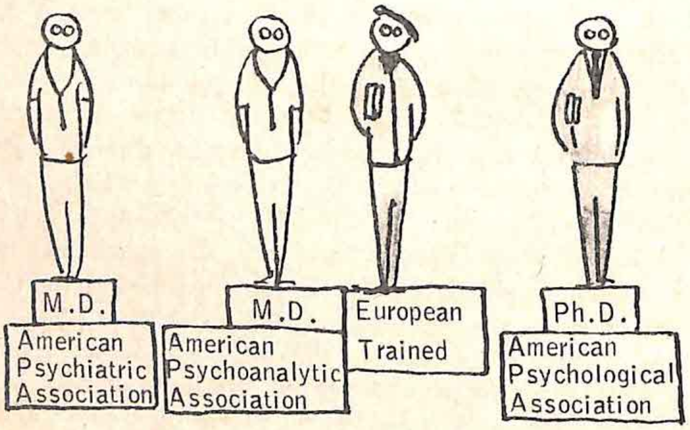
PSYCHIC MASTER TURNS FAILURE INTO
HEALTH, SUCCESS AND HAPPINESS

HYPNOTISM SCIENTIFICALLY APPLIED TO PROBLEMS OF
LOVE, MARRIAGE AND BUSINESS

WORLD FAMOUS PSYCHOLOGIST
WILL CURE STUTTERING, HEADACHES, NERVOUSNESS
AND WORRY

Since those who are professionally qualified to conduct psychotherapy do not advertise, signs like these serve as a warning—Stay away! Just as one would select a reputable surgeon for an operation, so it is vitally important to make sure of the psychotherapist's credentials before entrusting emotional problems to him.

Unfortunately, there is a good deal of confusion as to who is professionally qualified. Terms such as psychiatrist, psychologist and psychoanalyst tend to be used interchangeably and without understanding of the differences they represent. The nurse, who will be called upon many times


M.D.
American Psychiatric Association
M.D.
American Psychoanalytic Association
European Trained
Ph.D.
American Psychological Association

Only professionally qualified people should conduct psychotherapy.

to recommend professional help for emotional problems, should have more than passing knowledge of the various kinds of psychotherapy and the individuals trained to practice it.

Psychiatrist. A psychiatrist is a physician who has specialized in mental illness. Over and above his medical education, he has spent a number of years in postgraduate training for his specialty. He will have somewhere on his office wall a certificate of membership in the American Psychiatric Association. He will, of course, be a member of the national and local medical societies and he may be a member of the American Orthopsychiatric Association. He may also be a Diplomate of the American Board of Psychiatry and Neurology.

Psychoanalyst. Probably no title is more misunderstood than this one. The psychoanalyst is ordinarily a psychiatrist who has had training in the special technique called *psychoanalysis.* This means that he is medically trained, has had his required years of work in psychiatry and then has taken further work in psychoanalysis. One of his credentials should be membership in the American Psychoanalytic Association.

There are, however, practicing in the United States a number of qualified psychoanalysts who are not medically trained. Some of these individuals received their psychoanalytic instruction in Europe, where it was not necessary to be a physician in order to receive this training. Although they cannot be members of the American Psychoanalytic Association, which admits only the medically licensed to its rolls, information regarding a lay analyst can usually be obtained at the headquarters of the national society. It is particularly important to secure information regarding the qualifications of one who calls himself a psychoanalyst because the title is so often usurped and abused by fakes.

Clinical psychologist. Here, too, there is widespread confusion. Not all psychologists are qualified to practice psychotherapy. Some psychologists are trained to work in the laboratory with special apparatus and with various kinds of experimental procedures. Some are trained to administer psychological tests measuring mental abilities, vocational aptitudes, personality traits, reading and speech disabilities and the like.

The clinical psychologist, however, has had his educational emphasis in the diagnosis and treatment of emotional disorders. He should have, first of all, a Ph.D. from a recognized college or university. He should be a member of the American Psychological Association. Furthermore, he should have been admitted to the Clinical or Consulting Psychology Section of the American Psychological Association.

Since the law in some states fails to protect the public from victimization by a quack who calls himself a psychologist, it is very necessary to be assured of the credentials of the individual to be consulted. No reputable or responsible psychotherapist will take offense at being requested to produce evidence of professional background and membership in the recognized national organizations.

Psychiatric social worker. The psychiatric social worker has specialized in a particular field of social work. The qualifications usually consist of two years of work beyond the bachelor's degree, leading to a degree called Master of Social Welfare. Frequently the psychiatric social worker is a member of a clinical team and conducts therapy under the supervision of a psychiatrist.

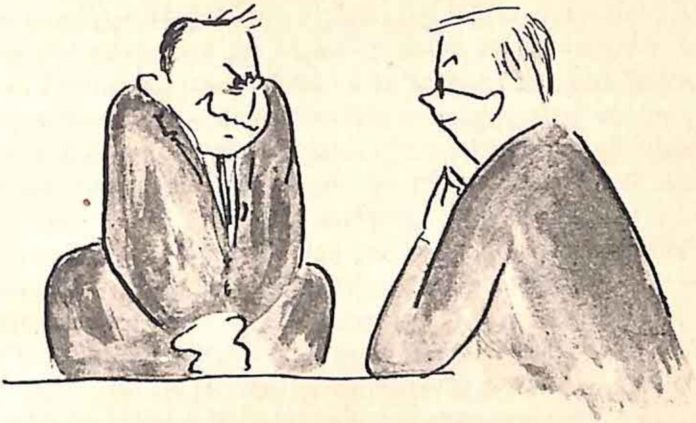
Aims of Psychotherapy

Psychotherapy, no matter what the specific technique or tools used, is directed at helping the individual learn new emotional patterns, new ways of relating himself to others.

We have, in past chapters, glimpsed some of the factors which might cause one to need psychotherapy. We saw the importance of love in each of our lives—free and generous love in childhood which enables us to love in return; affection, response and recognition; friendship, companionship and intimacy in later years. We saw that when the ability to give and receive love is impaired, one's relationships with others flounder in a morass of hostility, suspicion, isolation, overdependency, rebellion or fear. We noted that, in addition to love, man has many other needs, all bearing importantly upon his interpersonal relationships. We studied in some detail the self-protective techniques which may be used when a need is thwarted, understanding that these devices ease the tension created by the lack of fulfillment. When such relief of tension has been achieved, one tends to use the device again in a similar situation. It becomes habitual. It forms a pattern of behavior, an integral part of the personality.

Sometimes, however, the devices used to reduce tension may be destructive in terms of relationships with others. Kate, for example, is hostile toward any form of authority. When her need for independence in childhood was blocked by dominating parents, she protected herself with vigorous, open aggression. Now, in adult life, her supervisors, policemen, even her husband are unconsciously associated with the dominating parents. And Kate lashes out, as she did in childhood, in the same pattern of rebellion against any hint of being "ordered around." As might be expected, her behavior has hindered her professional advancement and sadly disturbed her marriage. Kate does not understand why she behaves as she does. She knows only that a fury wells up inside her. She has been told over and over again that she must learn to "control her temper." But try as she may, a situation in which it appears that she is being bossed inevitably calls forth a heated retort and inflexible resistance.

Kate's is a defense mechanism adopted in early life to cope with the tensions of childhood frustrations which has persisted as a pattern of behavior to the detriment of later relationships with others. In her case—and in the cases of all who might benefit by psychotherapy—the devices



Psychotherapy aims toward enabling man to deal with problems in a mature way.

which served a useful purpose in childhood, enabling the child to survive the untoward circumstances of its environment, become severe handicaps in adulthood. Kate and the others like her unconsciously reenact their old childhood conflicts with all of the significant people in adult life, bewildering both themselves and everyone else concerned by their inappropriate behavior.

In order to be set free from the unconscious forces causing the behavior, one must undergo an emotional re-learning. This is the task of psychotherapy.

All psychotherapy is directed at some kind of reeducation of the patient. If the problem is relatively minor, such as faulty study habits, the process may be rather simple and of short duration. When the origin of the behavior lies deep in the unconscious, however, the reeducation process becomes much more complex, requiring a longer period of time and more skill on the part of the therapist.

Techniques of Psychotherapy

Persuasive methods. This is probably the oldest form of therapy. It is still used extensively by parents, friends, teachers, ministers, and even by some physicians.

This method of attempting to change behavior consists of telling the patient what is wrong and then trying to persuade him, sometimes by means of suggestion, sometimes with threats or bribes, to take some action intended to accomplish the desired change. "Take a good vacation." "Get away from it all for a while." "Pull yourself together." "Get a new hobby." "Don't take life so seriously." "Get some will power." These are the familiar recommendations of the persuasive method.

The method of persuasion, if it works at all, will be of benefit only when the problem is very superficial. A lad who is perplexed about the choice of a vocation, for example, might be helped by information regarding his abilities and advice as to where these might best be utilized. Certain kinds of fatigue may be alleviated by a good vacation. Poor study habits might be corrected by following a specific program suggested by an advisor. Social errors might be improved by instruction in etiquette.

However, well-meaning attempts to deal with deeper emotional problems by persuasive methods are not only ineffective, but may actually be harmful. We are aware that the behavior stemming from unconscious forces is only the external manifestation of the underlying distress, just as pain and swelling are the signals of an infectious process. We may be able to mask the pain of infection through the use of various drugs, but if the infection is then permitted to go unchecked the basic problem is likely to become worse. While it is perfectly possible to alter a specific piece of behavior by means of persuasion, the actual cause is left untouched. And since the behavior served as an outlet for the unconscious tensions, to remove this mode of release from a person's defense pattern means that he must develop another. The new defense is hardly likely to be more satisfactory than the old in terms of the total personality.

An understanding of behavior problems as the symptoms of unconscious distress, then, implies that we must try to correct the distress, not merely attack the symptom. This realization may help parents, educators and others concerned with behavior caused by emotional problems to refrain from the well-intentioned, but futile, method of persuasion. Much heartache may be spared if the "Pull yourself together" approach is replaced by an effort to obtain the essential professional service.

Counseling and guidance. We have seen that emotional problems come in many sizes and shapes. Few of us escape an emotional crisis at some time or another in our lives, even though we could in no wise be termed neurotic.

Alice is failing in her college courses, though her intelligence level is demonstrably high. Bill and Mary have come to a rough spot in their marriage. Tony's teacher has sent home a note complaining that he is belligerent and uncooperative in school. Jim would like help for his inability to recite in front of a class.

Problems of this nature might well be taken to a mental hygiene clinic, a marriage counseling service, a student counseling bureau, or a child guidance center, first making certain, of course, that the personnel of such an agency is professionally qualified. Very frequently such a staff is made up of a team of social workers, clinical psychologists and psychiatrists.

Counseling and guidance techniques are directed first of all at an attempt to get at the root of the difficulty. The chief means for accomplishing this is through a series of interviews between the client and one of the staff therapists.

During these sessions, the client is encouraged to explore his problem and his feelings about the problem while the therapist listens quietly and understandingly. At first the recital is likely to be halting and reticent. Alice, for example, may insist that she spends long hours of study on her subjects and yet is unable to pass the examinations. She has selected the course in education because she has always wanted to be a schoolteacher "like mother was," but now it appears that she "just doesn't have the brains." Her parents will be very disappointed. And this makes her feel very sad.

The therapist makes a private mental note, however, that Alice neither looks nor sounds sad as she tells this story. As a matter of fact, she details her difficulties almost triumphantly. Since Alice's university entrance examinations show her to possess superior intelligence the problem cannot be "lack of brains." Something not yet discernible is at work here. However, Alice's version of the trouble is accepted at face value and the suggestion made that they talk further about this matter during her next appointment.

As the sessions progress, Alice discovers that the therapist does not criticize or condemn the lack of application to her work. He does not judge or moralize. He remains warm and understanding even as Alice admits finally that she does not care much for the courses she is taking; in fact, she does not want to be a schoolteacher at all!

Three interlocking factors are responsible for the client's progress in counseling interviews. First, the strongly *positive relationship which is gradually built up between the therapist and the client*. Perhaps for the first time in her life Alice finds someone who is willing to accept her (i.e., like her) exactly as she is. Gradually she can shed the false pretenses with which she has heretofore "bought" acceptance. She can suggest, without fear of rebuke, that there are times when she has not wanted to comply with the strict obedience demanded by her mother. She can even express and thereby release some of the negative emotions she has felt at being forced to select a course in which she has no interest, confident that this, too, will be understood and accepted by the therapist.

This process of emotional release of pent-up emotions is called *catharsis*. It is the second important factor contributing to the therapeutic action. Catharsis does not take place all at once, of course. The defenses erected against presenting our unlovely selves to view are much too strong to crumble immediately. The hidden angers and shames and fears and desires, however, must be faced consciously if the unconscious is to lose its power to dictate behavior. As Alice begins to recognize and to express her feelings of hostility, the unconscious outlet in the form of failing grades loses its purpose.

Furthermore, as the process of catharsis begins to drain off the poison of bottled-up emotions, the third therapeutic factor comes into play. This is self-understanding or *insight*. Alice will gradually understand that her hostility is the natural outcome of excessive domination. She will see that, while she consciously practiced strict obedience to her mother's wishes, unconsciously she accomplished rebellion by failing in the parental choice of vocation.

When the real trouble is finally exposed, the client, with the help of the therapist, is usually able to work out steps to resolve it. Alice, with her new-found freedom, may decide to have a conference with her parents and attempt to secure their approval of a change in her curriculum. The insights acquired during counseling sessions should help her take steps toward making her own decisions consciously and rationally. With the need for unconscious rebellion gone, Alice will probably be able to achieve the promise of her good intelligence.

It must be noted that Alice's problem is a rather ordinary one of an essentially "normal" individual. Counseling and guidance techniques, while useful and effective for the emotional disturbances which pop up in all of our lives, are not suitable for the treatment of more severe personality disorders. The qualified staff members of the various agencies mentioned, however, are trained to recognize the presence of a significant emotional problem and to refer the client to more comprehensive therapy.

Psychiatric treatment. We have already seen the impossibility of sharply defining a point where normal behavior leaves off and neurotic behavior begins. However, it must be acknowledged that some emotional problems lie deeper and may involve coping devices which seriously interfere with effective living. For such cases, psychiatric treatment may be necessary. The psychiatrist is trained to deal with severe emotional distress as well as the lesser problems of "normal" individuals.

The psychiatrist has a number of therapeutic tools at his disposal. Some of these tools will be discussed in the next section of this chapter. Those involving administration of drugs and the various shock treatments are restricted in use to the medical profession.

Psychiatrists differ in their approaches to mental illness. Some emphasize the physical, organic aspect and prescribe medications and various medical or surgical procedures. Others are more concerned with the dynamic, emotional side and endeavor to help people work through their difficulties by a talking-out process, similar in certain respects to that described under counseling and guidance.

The pattern of therapy selected by the psychiatrist is, of course, influenced by the diagnosis, the patient's age, his family and social situation and his intelligence. Sometimes, by means of clinical interviews, the psychiatrist will attempt to bring to light the patient's deeply buried unconscious emotions and bring about insight. Sometimes the intelligence level of the patient or other factors preclude the development of any extensive self-understanding. In such cases the psychiatrist may try only to alter the unsatisfactory behavior patterns into something more compatible with the demands of society.

In any case, the psychiatrist must possess an extraordinary amount of skill and capacity for understanding. He must know when to sit by, quietly listening, and when a patient is ready to work out or accept an interpretation of the real meaning of his conduct. He must be able to sense and detect the feelings which are revealed in the verbal outpourings—or by the patient's silence. He must be adept at translating gestures, unfinished sentences, somatic complaints, delusions, hallucinations or the "word hash" of schizophrenia into the road signs which map the patient's defense system. He must know when a defense can be broken down or when it must be maintained, lest the patient be overwhelmed by too great anxiety. He must know when homicidal or suicidal impulses of certain patients may break through, and be able to take measures to protect both patient and society. Above all, the psychiatrist must be able to project his own sincere belief in the patient as a person of inherent dignity and worth whose present behavior is the natural consequence of his previous life circumstances.

As in any form of psychotherapy, the relationship between the psychiatrist and his patient is of crucial importance for successful psychiatric treatment. When the therapy is conducted by means of *depth interviews* this relationship is especially profound. As the psychiatrist becomes, in effect, the "good" parent who does not judge or reproach, the patient is liberated from the need to use habitual self-protective devices. The doctor's unswerving constancy maintains a safe atmosphere in which the patient can test both his old and new ways of relating himself to another. Usually the patient discovers that his patterns of behavior were founded upon childhood reactions to threat. His difficulties have arisen, then, because the childhood reactions were carried over into adult life. In the therapy situation he learns slowly, and sometimes painfully, that his behavior is unrealistic in terms of present situations. For example, a promising young executive complained of periodic splitting headaches which seriously interfered with carrying out the responsibilities of his job. During therapy it developed that, as a child, he both feared his father and despaired of ever gaining his love. "Trying to get him to love me was like beating my head against a stone wall," the young man declared.

As therapy progressed it became apparent that the young man's approach to all persons of authority, including his boss and the therapist, contained the elements of his childhood feelings about his father. He both feared the "authority figures" in his adult life and yet wistfully hoped for a paternal kind of love from them. The headaches which developed after every contact with his boss symbolized dramatically the frustration of his deep yearning for love. Beating one's head against a stone wall is more than apt to produce a headache!

The young man learned, through his relationship with the therapist, that it is futile for a grown-up to demand the kind of love he missed during childhood, and that his fears stemmed from a situation which no longer existed. He had been reacting as if all persons in authority were his father. Understanding this enabled him to try out new, more mature ways of relating himself, first to the therapist and then to others in his daily life.

Psychoanalysis. Psychoanalysis is a specific type of therapeutic method practiced by those who have had systematic training in its techniques. It involves an exceedingly intensive, protracted relationship between the patient and the therapist or, as he is called in this case, the analyst.

Psychoanalysis is the method invented by Sigmund Freud for uncovering and treating deeply buried unconscious problems. It ordinarily makes use of three devices to assist the patient to overcome the difficulty of bringing unconscious problems to light. This difficulty, called *resistance*, is encountered in all forms of psychotherapy. It arises from our unwillingness to reveal the feelings and impulses we have hidden even from ourselves, and to give up the defense measures by which we have achieved, however unhappily, a measure of equilibrium. Disturbing that equilibrium means renewing emotional pain, and this we struggle, in spite of ourselves, to avoid. A line from Hamlet's soliloquy expresses this eloquently:

> "And makes us rather bear those ills we have
> Than fly to others that we know not of."

Freud discovered that the patient's resistance might be lessened if he could be persuaded to *relax*. For this reason the patient undergoing analysis may recline on a couch in a semidarkened room or he may sit in a comfortable easy chair.

Freud also devised the technique of *free association* to aid in bringing unconscious material to the surface. Free association consists simply of "letting the mind wander." The patient is instructed to say whatever comes to mind, regardless of how ridiculous or irrelevant or distressing the ideas may be. Early childhood memories and feelings, as well as significant anxiety producing desires, motives and emotions, are recovered through the free association process. It is not enough, however, simply to dredge up unconscious material. The patient himself must learn its significance in the formation of his problems. Gradually (analysis may take several years) he learns the true meaning of his symptoms, the purpose they have served in his life and their origin in his early life history.

Free association does not progress altogether smoothly, however. In spite of trust in the therapist and a conscious desire to get well, the patient will find his defenses mobilized in an effort to avoid the anxiety that arises when denied motives and impulses are recognized. At such a point free association will be blocked by silence, changing the subject, evasion or strong emotional reactions.

The third tool used by psychoanalysts in overcoming resistance is *dream interpretation*. Dr. Freud believed that the dream is not an idle meandering of one's thoughts, but is a phenomenon directly connected with the unconscious mode of mental activity. Dreams provide a means of expression for the subterranean strivings and feelings which shape personality. During sleep, the barriers holding this material back from consciousness are somewhat relaxed. Even during sleep, however, we try to keep the unconscious conflicts from our full awareness. The material appears in dreams in disguised and distorted form, so that upon awakening we remember only a meaningless hodgepodge. The patient undergoing analysis learns to examine and interpret his dreams, finding valuable clues to the unconscious problems which he may resist examining when awake.

Because analysis is prolonged and intensive, the patient gains the opportunity to re-live the past in full emotional detail, and thus re-learns reactions to conflict in terms of present adult intelligence. Analysis affords the chance to break the shackles of childhood emotionality and assume grown-up relationships with others based upon maturity and understanding.

Counseling and guidance, psychiatric treatment and psychoanalysis, then, constitute the three chief forms of psychotherapy. Counseling may be of benefit for the lesser emotional problems of "normal" individuals. Psychiatric treatment is indicated for the more severe difficulties, as well as for lesser troubles. Psychoanalysis is directed at a thoroughgoing restructuring of the entire personality, based upon frequent, intensive sessions with the analyst over a very long period of time.

It should be noted at this point that even the most successful psychotherapy does not solve all of the patient's problems. Psychotherapy aims at enabling him to cope with life's difficulties on a rational, mature basis —to lay aside the spectacles of childhood which beclouded his vision and to begin to look at life with the eyes of an adult.

Special Psychotherapeutic Tools and Techniques

We have mentioned several special methods used by the psychoanalyst to assist the patient in overcoming resistance. Resistance is the basic problem hindering any form of psychotherapy. It is because we all resist change and the pain it entails, though consciously wanting to change, that persuasive methods are so ineffective. Persuasion almost always results in heightening, rather than lowering resistance. This, too, is the reason for the high degree of training necessary for the psychotherapist. The process of tampering with defenses and equilibrium is extremely hazardous and should never be undertaken lightly or without the requisite skill.

Negative emotions must be spent before positive feelings can come forward.

A number of tools are available to the psychotherapist which may help in solving the problem of resistance. We will mention a few, noting at the same time that the *tool* is, as the term implies, only a useful means of assistance. It may help, but it does not substitute for, the fundamental reorientation of the patient in terms of others. This re-learning, whether it takes place on the superficial level of counseling, on the deeper level of psychiatric treatment or on the extensive level of psychoanalysis, results from the close relationship between therapist and patient.

Play therapy. This is usually used with children, who are likely to have difficulty in communicating problems verbally. It is quite improbable that a child will be able to describe to a therapist his hostility toward a brother or sister. However, it has been discovered that children tend to "play" out their problems.

Sometimes a troubled child is presented with a doll's house and tiny figures representing each member of his family. As the youngster plays, his conflicts are revealed. He may destroy the baby doll, or fry mama doll in a skillet, or "play act" a bitter quarrel between father doll and mother doll, for example.

Sometimes he can express his pent-up hatreds by means of finger paints or drawings, by violent smearings and colors. Sometimes use is made of an inflated plastic figure which the youngster can beat aggressively, or blocks with which he can construct and then destroy.

The play sessions not only help the therapist to understand the child's problems, but also serve as a mode of release for the youngster's emotions. Under the skilled guidance of the therapist the play has a cathartic effect. When, finally, the negative emotions have been spent, positive feelings can begin to come forward.

Narcosynthesis and hypnosis. Freud experimented with hypnosis as a method of treatment during the early days of his work with mental illness. He discovered that he could actually cure conversion hysteria by hypnotic suggestion—assuring the patient in a state of hypnotic trance that the afflicted part would be functioning normally when he awakened.

The only trouble was that such "cures" did not last. The patient soon returned with either the old or a new ailment. Freud began to realize that the complaint which brought the patient to his office—the blindness or paralysis, for example—was merely the symptom of a more basic difficulty. And since the symptom was necessary to the patient's psychological economy, either it reappeared or another had to be developed.

Hypnosis and also certain of the amnesia-producing drugs are now sometimes used in an effort to shorten the course of therapy. Under hypnosis, or while in the twilight state just before drug-induced sleep, the patient may be able to drop his defenses temporarily and describe his unconscious feelings and problems. It should be emphasized, however, that the purpose of this procedure is to help the therapist better understand the problem, thus aiding his conduct of therapy. It helps the patient only in this indirect fashion. He must still undergo the painful process of becoming conscious of the problem himself.

Narcosynthesis and hypnosis, then, are tools which may be used by the therapist to assist his own understanding of the patient's difficulties. They serve as a shortcut in the therapist's laborious route toward understanding his patient. However, until the patient himself acquires these insights, there can be no lasting change in his behavior.

Shock therapy. The student nurse may see and assist in the care of patients undergoing shock treatment during her psychiatric service. Three forms of shock are commonly used: insulin, Metrazol and electric convulsive.

No one has yet come forward with an adequate explanation of why shock treatment sometimes brings about an improvement of the schizophrenic or depressive state. There seems to be quite general agreement, however, that the use of shock alone does not bring about a lasting relief from symptoms. It has been suggested, particularly in the case of depression, that shock serves psychologically as an extreme form of punishment. Since the depression itself represents self-punishment, it may be that shock treatment fulfills this need and the patient is enabled to abandon his self-punishing behavior.

In the case of schizophrenia, some credence is given the theory that shock constitutes an unconscious threat of death, the threat being great enough to force a choice in favor of reality with all its pain rather than the never-never land of schizophrenic fantasy plus repeated shock treatment.

It is sometimes suggested that shock produces a cerebral anoxemia which is in some fashion the basis for the mental improvement.

In any case, the shock treatment seems to help some patients to become accessible to psychotherapy. It therefore serves the therapist as a tool by somehow breaking through the defenses of the patient which have prevented the establishment of a therapeutic relationship.

Drug therapy. During the past decade and a half, several hundred different drugs have become available for treatment of emotional disturbances. Though marketed under different trade names, they can be catalogued in terms of three main effects: those which tranquilize, those which stimulate mental and emotional activity and those which "free the mind," expanding consciousness and sharpening perceptions.

One of the earliest known tranquilizers, extracted from a root called Rauwolfia serpentina, was used 30 centuries ago by physicians of India. It was rediscovered in recent years when a derivative, Reserpine, was found to be effective in treating high blood pressure. At about the same time a powerful chemical synthetic, chlorpromazine, was discovered in France and has since yielded a number of related chemicals with similar tranquilizing effects. The tranquilizers have the ability to reduce anxiety, to calm aggressive impulses and to lower excitability without sedation. They reduce the need for mechanical restraints and the other devices once so common on wards for the seriously disturbed.

Another group of drugs can be described as antidepressants or energizers or "mood lifters." These seem to raise the level of intellectual energy, reducing depression and apathy, and are particularly useful for melancholy and depression.

However, it must be remembered for both the tranquilizers and antidepressants, that alleviating symptoms does not tackle the underlying distress. The value of these drugs lies in making the patient accessible to psychotherapy. Many are known to produce side effects which constitute a rather serious hazard. However, under proper medical supervision, they are a valuable aid to the therapist.

The third group of drugs, the "consciousness expanders" or hallucinogens, are much more controversial. The one which has received the most widespread publicity is lysergic acid diethylamide (LSD) which is known to produce dramatic changes in conscious experience, varying from marvelous visual images to transcendent fantasies of identification with all humanity to experiences of indescribable terror and despair. The use of LSD for psychotherapy seems to enable the patient to relive childhood events and to stimulate self-expression, thus perhaps shortening the time required for therapy. There is also some hope that, in the hands of careful investigators, LSD and some of the other hallucinogens may yield more understanding of the functioning of the human mind.

However, the very real dangers in unsupervised "experimentation" cannot be overemphasized. LSD is known to produce widely diverse reactions in different people; for some it may induce a serious disturbance in the vital balance, extreme emotional distress and even suicide.

Group therapy. Group therapy has gained considerable prominence since World War II. It consists, in brief, of a selected group of troubled individuals and a therapist. The individuals are permitted to talk about themselves and their problems in an informal atmosphere. The process seems to help the individual see that his troubles are not unique—that others have similar and sometimes greater difficulties. Through the group interchange, individual insights can be achieved and anxieties relieved. Furthermore, the patient is afforded the opportunity to test, in a relatively safe situation, new modes of relating himself to others.

Group therapy is sometimes used as the sole method of treatment, particularly when problems are superficial or in situations where there are too many patients to be treated individually. Ideally, however, group therapy is combined with individual therapy and may either prepare patients for individual treatment or serve to speed and strengthen their self-understanding.

Other "group" techniques are proving useful. *Psychodrama* or role-playing provides an opportunity for patients to act out their problems or to acquire a "feel" for the problems of others. For example a hostile, rebellious teen-ager might be assigned the role of a father. Then a situation is enacted wherein the "father" is confronted by a hostile, rebellious son. During the reenactment of the situation the teen-ager may acquire some insight into the effect of his real-life behavior on his own father.

Another focus of group therapy effort may be an entire family. Under the guidance of the therapist the family members are encouraged to explore their relationships, one with another, and to express their feelings about each other. This frequently leads to insights for all members about how they affect the others and the disturbed member of the family may receive more understanding and support than he had previously.

Projective tests. Projective tests, such as the Rorschach, the Thematic Apperception, the Blacky, and others, aid the therapist in much the same fashion as hypnosis and narcosynthesis. By offering clues to the patient's underlying problems they facilitate the therapist's understanding and assist him in guiding the therapy. As in the case of hypnosis and narcosynthesis, however, the patient himself must travel the long, hard road toward self-understanding.

On the surface, it might seem that simply to inform the patient of the nature of his problems would aid and shorten the process. This is in no wise possible. Problems become unconscious precisely because they are unbearable. The defense mechanisms have been adopted to shield the individual from the real conflict. To be suddenly confronted with the problem one has successfully kept from himself would arouse intolerable anxiety and require the erecting of even stronger defenses.

Unconscious problems can become conscious when, and only when, the individual becomes strong enough to face them. This strength, or feeling of security, must be built slowly, with long testing, upon the consistent acceptance and understanding inherent in the therapeutic situation.

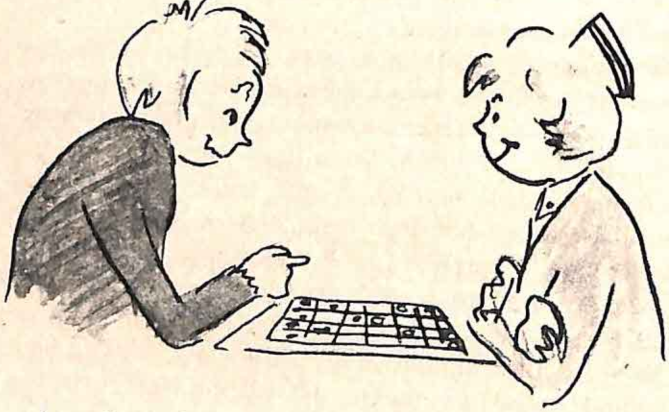
The Role of the Nurse in Psychotherapy

The majority of patients on the psychiatric service are there because of their failure to establish the warm, affectional human relationships which are the substance of successful living. Somewhere in their life histories the necessary *trust* in other human beings was shattered or, more likely, was never established or nurtured. The patient on the psychiatric service is confronted with the problem of learning to trust, to successfully relate himself to others, if he is ever to gain a degree of mental health.

We have seen that the psychotherapeutic relationship offers the opportunity to learn that at least one other human being is consistently trustworthy. To learn this, we have also seen, entails breaking down an entire lifetime's fortress of suspicion, hostility and fear. The first gossamer threads of hope with which the patient begins to fashion his relationship with the therapist can literally be destroyed by a glance or a word, perhaps never to be ventured again.

But psychotherapy cannot be conducted in a vacuum. In order to live, the patient, of necessity, must maintain certain relationships with others. This is one of the reasons for institutionalizing those with severe emotional problems—so that the relationships can, to some degree, be controlled during the crucial stages of psychotherapy. The nurse on the psychiatric service, then, becomes the second most important person in the patient's life. Her feelings toward her patients, whether expressed or unexpressed, are vitally important factors in any psychotherapeutic attempt. The hesitant, wistful feelers with which the patient reaches out toward life can be encouraged by the understanding nurse, or can be betrayed by tactless, unfeeling treatment.

The chief responsibility of the nurse is to make sure that her relationships with the patients firmly support the delicate budding of confidence



An understanding nurse is the therapist's good right hand.

in others. This will tax all her resources of insight and ability to feel with another. It will draw heavily upon her own qualities of stability, warm understanding, and devotion to the cause of human welfare.

The psychiatric nurse serves, in effect, as the therapist's good right hand. The environment she provides can immeasurably strengthen the patient's efforts to return to society as a productive, effective citizen.

Addresses of Professional Organizations

The American Psychiatric Association
1700 18th Street, N.W.
Washington, D.C. 20009

The American Orthopsychiatric Association
1790 Broadway
New York, N.Y. 10019

The American Psychoanalytic Society
1 E. 57th Street
New York, N.Y. 10022

The American Psychological Association
1200 Seventeenth Street, N.W.
Washington, D.C. 20036

Summary

1. The nurse should understand the distinctions between professional people who are qualified to do psychotherapy.
    a. Psychiatrist—is an M.D., who has specialized in psychiatry.
    b. Psychoanalyst—is usually an M.D. with specialty in psychiatry and with additional training necessary for the practice of psychoanalysis.
    c. Clinical Psychologist—should have a Ph.D. in clinical psychology from a recognized university.
    d. Psychiatric Social Worker—usually has a master's degree in social case work and has specialized in psychiatric case work.
2. Psychotherapy is directed toward helping the individual to learn new emotional patterns, new ways of relating himself to others and new, more rational, coping devices.
3. Techniques of psychotherapy discussed:
    a. Persuasive methods: These consist of telling the patient what is wrong and attempting to persuade him to take action to accomplish the desired change. Almost totally ineffective except for very minor problems where information or instruction is all that is necessary.
    b. Counseling and guidance: Various interview techniques for

establishing a relationship of trust between therapist and client, providing release of hostile emotions through catharsis and, finally, developing insight.

- c. Psychiatric treatment: More profound than counseling and guidance, but partakes of the same aims. In addition, the psychiatrist may prescribe medications designed to facilitate therapy.
- d. Psychoanalysis: A specific technique involving an intensive, protracted relationship between patient and analyst. Uses free association and dream interpretation.

4. Special psychotherapeutic tools and techniques:
    - a. Play therapy: Used for children to release emotion and to assist the therapist in understanding the problems.
    - b. Narcosynthesis and hypnosis: These enable the patient to drop his defenses temporarily, thus helping the therapist to better understand the problems.
    - c. Shock therapy: Seems to help some patients become accessible to psychotherapy.
    - d. Drug therapy: Use of tranquilizers, antidepressants or hallucinogens under close medical supervision in order to facilitate a therapeutic relationship.
    - e. Group therapy: Technique whereby troubled individuals relate to each other in a group under the guidance of a therapist. Sometimes accomplished by means of psychodrama, in which roles are enacted and discussed by the group. Sometimes used for families.
    - f. Projective tests: These, too, assist the therapist in better understanding the difficulties.

5. The nurse's role in psychotherapy is of vital importance. Her relaships with patients must support trust and hope in each and every encounter.

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SECTION V

Maintaining the Vital Balance

Having glimpsed the multitude of ways in which human beings attempt to deal with life's small upsets and large upheavals and having gained some understanding of the kinds of expert help available when human relationships begin to fall apart, we might logically ask what we might do to help ourselves.

These last two chapters will turn attention to this question, both from the standpoint of overall development, the continuing progress toward maturity, and from the standpoint of small, immediate steps which might be undertaken by anyone who wishes to increase his capacity for effective living.

Chapter 18 THE MEANING OF MATURITY

Now it is time to reconnoiter. Like Janus, the Roman god with two faces, we will look back to see where we have been and ahead to envision how best to proceed forward.

We are almost at the end of our journey. We have studied heredity, the built-in potentials and incapacities with which the individual begins his life adventure. We looked at maturation, the growth processes which influence development, perhaps through certain "critical periods" when the individual is more vulnerable to certain kinds of experiences or more ready for certain kinds of learning. We spent a long time on learning because it is so central a process in determining what the individual is to become.

The development of basic outlooks and attitudes was traced through the "eight psychological ages of man," with some emphasis on early childhood, which is considered to be vitally important for learning patterns of behavior which affect relationships with others thereafter. Mentioned briefly were some of the cultural attitudes, rules and dispositions, the "of courses," which play a large and frequently unexamined role in determining behavior and expectations. Reference was also made, again too briefly, to the unique family circumstances and atmosphere which shape the developing personality so that each individual is different from every other in his special pattern of needs, desires, motives and methods of obtaining satisfactions.

Then we explored theories which deal with the "why" of human behavior, noting that most of these postulate dynamic forces which move the individual into action. The nature of these forces has not been agreed upon, but for purposes of our discussion we proposed the notion of an individual "level of optimum stimulation" or "vital balance," a product of heredity, maturation and the individual's developmental history. We see behavior as the attempt to maintain a relatively steady state of the particular vital balance in the face of continuous events, inner or outer, which produce too much or too little stimulation and thus threaten to upset it.

The states of feeling which arise as one endeavors to maintain his vital balance were recognized as emotions, having both physiological and psychological effects and subjective qualities ranging from very pleasant to exceedingly unpleasant. Frustration was described as the result of a goal's being blocked with a need remaining unfulfilled. The resulting inner disturbance was given a generic term, "tension." Tension threatens the vital balance and the individual seeks to regulate the disequilibrium by direct or indirect methods. Direct methods are trained upon the obstacle or agent of frustration. Indirect methods focus upon tension, leaving the problem itself unresolved. Because the indirect methods "buy" a measure of protection from the disturbing effects of tension, these are called "defense mechanisms" or "coping devices." Defense mechanisms "work" (i.e., succeed in reducing tension) because the reality of the problem is distorted to a greater or lesser extent. Those which enable us to continue useful and productive functioning in the face of frustration are probably necessary and valuable techniques. Those which pervasively distort reality tend to handicap seriously the individual's effectiveness in life situations. In any case, however, all coping devices can be seen as directed toward the same end, that of dealing with individual tensions in an effort to maintain the individual's particular level of functioning.

It is possible to describe and range these levels of functioning upon a vertical continuum. A vital balance which permits "normal" functioning would display a minimum distortion of reality and general attributes of zest, hope, productivity and effectiveness in the "life style." It would be placed near the top of the continuum to connote "high level" coping with life affairs. Below this might be ranged the levels of functioning that show greater distortion of reality and less evidence of optimum attributes in the general life style. Toward the middle would be placed those levels with a degree of distortion which has become a liability, whose coping devices interfere a great deal with their overall effectiveness. At the lowest extreme, distortion of reality is so severe and the individual's vital balance so impaired as to prohibit any effective functioning in the real world. Such an individual will need expert help to establish a level of operation which includes coping devices better suited to life's problems.

Word pictures, however, fail dismally to convey the infinite richness, complexity and variety of human endeavor. The presentation here has been, of necessity, incomplete, static and oversimplified. Neither has much been said, except by implication, about the overall goals of personal development. Toward what should we be striving? What constitutes mental health?

The idea of mental health is an elusive one. Offhand, there might be a temptation to equate it with happiness. But not so fast—select any ten individuals and ask them about their personal specifications for happiness. Fame, fortune, beauty, prestige and many other ingredients are likely to be written into the prescription by one or another, but the recipes would be as varied as the individuals queried. It is plain that no single formula would suffice for "happiness" and clear that one's idea of happiness may not be synonymous with mental health.

Some may think of mental health as the attribute of a "well adjusted" individual. This, too, leaves something to be desired. When an entire society is sick (for example, Nazi Germany) he who does not adjust, even at the price of life itself, is demonstrating more social responsibility than those who wink at the negation of human dignity.

Some may suggest that mental health means emotional security. But it is possible to be emotionally secure in a den of thieves if one is a participant in preying on those who are weak and alone, yet surely this cannot serve as a worthy goal for a life enterprise.

However, mental health could entail happiness, though not the kind which is dependent upon possessions. It could involve adjustment, if by "adjustment" is meant accepting the fact that no life proceeds without problems and facing these with courage. It could denote emotional security if this is derived from a firm sense of one's own productive contribution to society.

Emotional Maturity

Let us, then, here introduce one more concept which may help to "wrap up" all that has gone before. This is the idea of *emotional maturity* which will be used as a convenient description encompassing all of the goals, attributes and qualities which, together, lead toward a vital balance that promotes zest, hope, productivity and effectiveness.

Emotional maturity seems to be a particularly useful idea because it extends and spells out the implications of the ages and stages concept of personality growth. If the stages of personality development are examined, it will be seen that, in the words of Harry Overstreet who has written extensively on this subject, "The proper psychological undertaking of man is to move from immaturity toward maturity."[1]

We have already met the notion that personality development may not keep pace with physical growth and with chronological age. We are beginning to understand the possibility of an "arresting" or stunting of psychological growth which occurs when the emerging personality is overwhelmed by a conflict for which it lacks problem-solving resources. In such a case the individual fails to progress toward adult modes of coping with life. Instead, he retains and continues to utilize the ways of his childhood. Though equipped with an adult body and accorded adult powers, he operates with immature perceptions, immature attitudes and immature techniques for solving problems.

From this perspective it is possible to see "neurosis" and "psychosis" not as diagnostic entities nor as afflictions which strike out of the blue, but as behavior directed by the fury and impulsiveness of earliest childhood. We can understand, too, that there are degrees of immaturity, tag ends of old emotional troubles, plaguing all of us. Sometimes these do not seriously impair effectiveness in the ordinary course of events—the matron with grown children of her own who has not managed to progress beyond the inner turmoil and self-doubt of adolescence, for example. Although her lack of confidence may have unnecessarily circumscribed her life, she may nevertheless have done a fairly decent job of serving as wife and mother. Sometimes the immaturity is not even recognized as such, however. The individual continues in the "normal" walks of life but with undermined capacity for creative endeavor—the Ku Klux Klansman in his bedsheet, still acting out the nightmare fears of the four-year-old, when what is real and what is fantasy remains vague and unclear. On the other hand it is sometimes our privilege to know a youngster with a sense of responsibility, a steadiness of purpose and an orientation toward values which would do credit to one twice his age.

Granting the difficulties which may be caused when the physical powers of an adult are governed by the needs, fears and angers of childhood, let us now turn the coin around and inquire about the hallmarks of emotional maturity. By what criteria can one measure his own progress toward this goal? What signs distinguish those who have negotiated successfully the critical periods of personality development? How do the emotional responses and relationships of immaturity differ from those of one who has truly "grown up"?

Long-term values and goals. As a first proposition, it might be suggested that emotional maturity is associated with ability to direct behavior in terms of long-range values and goals. A child bids for immediate satisfaction of his desires, but an adult should be able to give up fleeting pleasures in favor of more lasting gains.

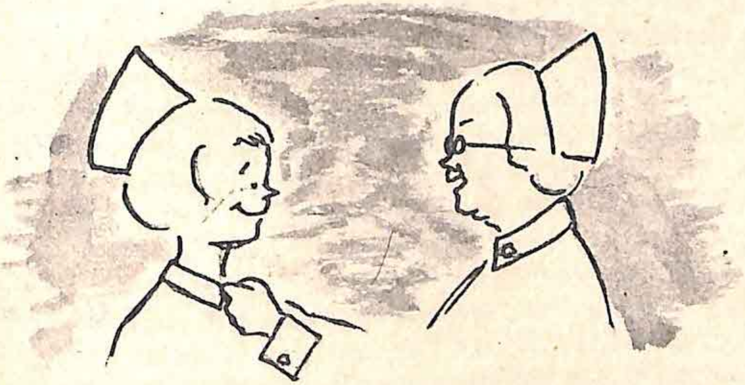
Remember the old fable about the grasshopper who fiddled away the lovely summer days and ridiculed his industrious neighbors, the ants, who were busy storing up provisions for the winter? This reminds us that the exhortation to forego temporary satisfactions when these interfere with more important ends is really an ancient bit of wisdom. This kind of decision has confronted men in every period of history.

To go to the dance or put in the evening on tomorrow's term paper, to indulge in the hot fudge sundae or rule in favor of a better figure and complexion, to pass along a juicy piece of gossip or refrain because of the hurt it might cause—these are the "garden variety" decisions which face us every day, not really crucial and yet each testing in a small way the degree of maturity. Larger indications might include the ability to learn from mistakes rather than disclaim or ignore them, diligent pursuit of vocational or professional training rather than settling for an easy, routine job, and the deliberate shouldering of citizenship responsibilities in the community in contrast to an all too common "let George do it" shrug.

The focus on long-term values and goals, however, does not mean that one must adopt a stern and rigid disdain of pleasure. Indeed, those individuals who maintain a bleak and cheerless stance toward life are demonstrating as childish an outlook as those who forever bow to the whim of the moment. This leads to the second criterion of emotional maturity which is:

A grown-up conscience. As we have seen, the child's conscience develops out of the punishments, taboos and rewards of the controlling adults in his life. The early conscience is the internalized voice of mother and father, and is chiefly concerned with what one must not do with prohibitions. Sometimes, when discipline has been harsh and wholly taken up with "thou shalt nots," the individual remains preoccupied with all of the forbiddens of his childhood. With this excessive concentration on the letter rather than the spirit of the law, he retains a childish, hair-splitting conscience which controls through fear. He is unable to move toward the true goal of discipline which is rational self-direction.

The mature conscience develops successfully because parents have been able to teach the rules and necessities of behavior with loving firmness, without thwarting the child's need to be regarded (and therefore to be able to regard himself) as a significant person with capacity to choose for himself. It permits the individual to participate in life's joys



Emotional maturity implies a ready acceptance of the future.

without feeling guilty or that he must "pay" for each enjoyable moment. Such an individual will not think of pleasure as self-indulgence; neither will he utilize it to escape from adult responsibilities. Rather he will bring to both pleasure and responsibility a certain zestful enthusiasm, seeing in both the splendid privilege of exercising adulthood.

But even more important, the grown-up conscience will have developed in such a way as to be free of inner hostility toward authority. A conscience which evolves through dread of dire punishment always carries a burden of anger toward those punishing forces. Some of its sunless, unrelenting rigidity stems from the necessity of keeping the rebellious angers in check. But, as we have already seen, the repressed emotion boils over through disguised outlets. Frequently it takes the form of both hatred and fear of minority groups—in short, prejudice.[2]

The grown-up conscience does more than just control behavior, however. It guides and rules in terms of an overall value system. This means that the emotionally mature personality has constructed a:

Philosophy of life. The truly grown-up philosophy must include a whole-hearted conviction of the brotherhood of man. It must encompass a deeply integrated capacity to *empathize* with others.

This involves far more than sympathy. It is possible to sympathize with another and yet remain aloof from his suffering. But empathy means participation in another's feelings and experiencing those feelings as if they were our own. In terms of this kind of relationship one "does unto others," not because it is a Biblical injunction, but because of acute sensitivity regarding another's human situation.

This magnificent potential of imagination is not often realized. If it were, we would truly learn to love our enemies and to understand that they "know not what they do." Several years ago a young Korean graduate student walked down a dark and dingy Philadelphia street to mail a letter. He was set upon by a gang of young ruffians, brutally assaulted and beaten to death. The City of Brotherly Love recoiled in shock and horror. Then came a letter from the boy's grief-stricken parents, petitioning "the most generous treatment possible within the laws of your government" for the criminals and enclosing 500 dollars to be used for the education and rehabilitation of the teen-agers who had murdered their son. Here is maturity of the highest order—an inspiring example of the capacity of the human spirit to rise above the bonds of self; it demonstrates hope in its most positive aspect—the confident assertion of the relatedness of all mankind.

Emotional maturity demands also that the individual has achieved:

Healthy resolution of independence-dependence conflicts. Growing up involves severing of parents' "apron strings" commensurate with the developing ability to stand on one's own two feet. It must also involve a sense of responsibility in keeping with adult powers. It is an independence free of rebellion and rancor and therefore, to use a description of Dr. Overstreet's, it can take a stand with both "self-confidence and cordiality"[3] —not by browbeating an opponent into submission, not by power methods of persuasion, nor by withdrawing from the active give-and-take of opposing views.

Hand in hand with this rational independence must go a reasonable dependence—a capacity to accept rules and direction, the ability to cooperate with others for common goals and to achieve satisfaction in the activity.

Along with this resolute self-confidence which is neither belligerent nor arrogant in expression, goes the ability to both:

Give and receive heterosexual love. To this end the child must have learned about love from the abiding love of his parents for him and for each other. He must have acquired the confident knowledge that whatever he is, is right and good—which means that no little girl will have had to strive mightily to behave like a boy because of her parents' longing for a son, and that no little boy will have had to adopt feminine ways because his parents would have preferred a daughter. He will also have learned important lessons in sharing love from the early necessity of sharing parents with other members of the family—that no human being can wholly possess another, no matter how much he might long for such a state of affairs; that love is not a quantity like a pie from which each slice leaves less for someone else.

He will have absorbed in a million small ways the feelings of tenderness, respect, affection, comradeship and shared endeavor from the habitual ways his parents treat each other and their attitudes toward him.

And although the individual regards the reproductive process as a natural, positive, creative aspect of life, it can be seen that this did not come about as a result of merely obtaining information about the "birds, bees and flowers." Rather, the entire matrix of life as a child in the family served as preparation for the creating of a new family of his own.

The sexual component of love is then placed in proper perspective. It is not set apart as if it were a separate area of human behavior. In every case it partakes of the individual's general outlook on life, bearing the marks of his characteristic view of the world and the people in it. An inner conviction of self-worth and the worth of others means that it will be neither exploiting nor grasping. There will be no need to use it to prove masculinity or feminine desirability. Nor will it be seen as a casual expression of affection, devoid of any responsibility—the counterfeit coin of love, as worthless as the description implies. For those who have truly grown up and who are ready and able to undertake a lifelong relationship designed to secure the best possible circumstances for those who come afterward, the sexual union will serve as the cement of love, binding husband and wife together in their common purpose.

Finally, with emotional maturity comes a:

Sense of function and of purpose. This entails the ability to relate oneself productively and effectively to the world of work and community affairs. There is a lovely story told of Sigmund Freud which may be illustrative in this regard.

The story goes that he was walking one evening with a young student who earnestly inquired, "What is happiness?" Freud is said to have answered cryptically in his native tongue, "Lieben und arbeiten." Happiness is to love and to work.

Such a simple recipe, it seems at first glance. But not so simple upon closer examination. Love includes not only young romance, but the devoted love "in sickness and in health" of husband and wife, the gentle responsiveness to a child, the warm affection between friends, the compassionate urge to help those in distress, and the feeling of good will toward all mankind.

As for work, all of us must know in our hearts that we are doing our bit to contribute to the welfare of all. The nature of the work then becomes unimportant; of greatest significance is the understanding that what one does plays a part in a larger objective. Once there were two stone cutters. One complained, "All I do is cut stones day after day." But the other replied, "Not so, my friend. We are building a cathedral."

What must one do to be happy? Love well and work at building a cathedral!

From the foregoing it becomes apparent that emotional maturity involves both a successful journey through the stages of the past and a ready acceptance of the future. It in no way suggests a life without problems, but rather a sturdy courage in attempting to solve them. Moreover, it involves generous use of adult powers to sustain and encourage others.

Our tension-ridden world has sad need of large numbers of people who have truly "put away childish things." We need individuals who do not see "through a glass, darkly," but who are able to view the world in the clear light of adult intelligence. We need those who do not "prophesy in part," but who are fully able to understand the cause and effect sequence implicit in human behavior. Perhaps we may hope that this will come to pass with increased knowledge of the factors which make for emotional maturity. Certainly it is our responsibility to strive for emotional maturity ourselves and thereby release the fullest possible human potential for service to others.

Summary

1. The concept of emotional maturity as the "proper psychological undertaking for man" holds that along with the physiological growth which moves the child into adulthood ought to come regular progress

toward adult goals, attitudes, attributes, outlooks and modes of coping with life.

2. Emotional maturity would include the ability to direct behavior in terms of long range values and goals.

3. The emotionally mature individual will have a grown-up conscience, which makes possible rational self-direction and zestful participation in both work and play, and which is free of old hostilities toward authority.

4. Emotional maturity implies a philosophy of life that includes a whole-hearted conviction of the brotherhood of man.

5. Emotional maturity implies a resolution of independence-dependence conflicts in the form of a sturdy self-confidence that is neither belligerent nor arrogant in its expression.

6. The individual who is emotionally mature will be able both to give and receive heterosexual love in a relationship that willingly and joyfully undertakes the responsibility of securing the best possible foundation for offspring.

7. Finally, emotional maturity implies a sense of function and of purpose, the ability to relate one's self productively and effectively to the world of work and to the world's affairs.

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Chapter 19 WHAT CAN WE DO ABOUT OURSELVES?

The ancient Greeks were deeply pessimistic about the ability of man to alter the course of his existence. One of their famous dramas, "Oedipus Rex," relates the tragic story of King Oedipus who unknowingly slew his father and married the widowed queen who was really his mother. Oedipus had been abandoned in a forest as an infant and reared by another family, so he was quite unaware of his origin, and his parents were convinced that he had perished. In the course of the drama Oedipus learns, to his horror, what had taken place. In an agony of guilt and remorse, he puts out both his eyes and condemns himself to wander as a beggar in exile. Why did this tragedy occur? The playwright, reflecting the thinking of his times, simply declares that it was so fated from the beginning. Nothing that any of the principals could do would change the inexorable course of events. Man, to the Greeks, lay wholly in the grip of a predetermined destiny.

The ancient Hebrews were somewhat more cheerful in their view of man's capacity to rule his own life. Man has a free choice, they suggested, between good and evil. If he chooses evil, evil will befall him. If he chooses good, happiness will be his reward. This concept is reflected over and over again in the stories of the Old Testament. David, who fell in love with the beautiful Bathsheba, decided to possess her by the simple expedient of ordering her husband off to certain death in battle. For this crime against humanity, both he and his new wife were severely punished. In another story one entire nation was engulfed by a terrible flood because of persistent wickedness. Only the righteous Noah and his family were preserved. There is also the example of Job, who suffered more than one man's share of troubles, but who was finally awarded the restoration of his lands, family and good health "twice as much as he had before" because he remained steadfast.

Our own culture, which borrowed so heavily upon the thinking of the Greeks and the Hebrews, still retains large elements of these two beliefs about man's ability to find his own happiness. On one hand we have a fatalistic view—that man is in the power of forces over which he has no control. "What is to be, will be." "A man is born with criminal tendencies and therefore becomes a criminal." "Johnny's terrible temper comes from his father's side of the family." "You can't make a silk purse out of a sow's ear." "Blood will tell." Such phrases express or imply this outlook.

On the other hand, we pay tribute after the fashion of the Hebrews to man's ability to choose and, like the Hebrews, we have a tendency to feel that unhappiness is a kind of punishment for man's wickedness. This is reflected in the widespread inability to think of emotional distress objectively. Instead, it carries a moral connotation—a man becomes "neurotic" or "psychotic" because he was bad. Mental illness is considered to be his own fault—the result of moral weakness. The direct corollary of this is a reluctance to seek help for emotional problems, because to admit an emotional problem is akin to admitting that one has been wicked or at least very foolish.

These two threads of belief are very much a part of each of us. It would probably be difficult to acknowledge having been a patient in a mental institution or recount experiences under psychotherapy with the same candor with which one describes an appendectomy.

This is quite understandable. Modern concepts regarding emotional problems and mental health or disease are little more than fifty years old, an incredibly short time in which to attempt to change views which have come down through the centuries.

However, modern psychology is more optimistic regarding the question of man's ability to achieve mastery over his emotions. We now realize that emotional difficulties arise chiefly out of circumstances over which one had no control as a child. We recognize the importance of childhood in determining the troubles which plague the adult, but we know also that the individual is not inextricably trapped by the events which made him what he is. We know that there exists the possibility of learning new ways of behaving and new patterns of thought. This is the hopeful message of our time to all the emotionally distressed.

When problems lie very deep, the individual may require expert help to acquire this new learning. In the final analysis, however, it is the individual himself who must bring about the desired changes. The road to self-understanding is painful and laborious. Although the psychotherapist may be able to point the way, may be able to encourage and support the efforts, actual progress along the road depends wholly upon the individual's own determination and perseverance.

This, of course, is true regarding learning of any sort. No matter how excellent the teacher, he can only provide assistance. The student must accomplish the learning and put it to use. This, too, must be the answer to the question "What can we do about ourselves?" An ordinary person with ordinary problems can do a great deal about himself, provided he is willing to put forth the necessary exertion and endeavor.

It must be understood at the outset that there is no magic formula for self-improvement. If there were, the noble resolutions of New Year's Eve might not be so short-lived. The search for a quick and easy recipe for happiness is a fruitless one. In spite of this, countless numbers of persons patronize the modern-day version of the old-time patent medicine man—purveyors of guaranteed cure-alls for emotional problems. Valuable time, money and energies are hopelessly wasted by these exploiters of human misery, and in certain cases they may do much damage.

However, the picture is not all black. Though psychology offers no golden promises, no dramatic remedies for immediate improvement of mental health, still certain principles may be advanced which can help the individual who is willing to undertake the slow, difficult and often discouraging process of giving up old habits and acquiring new ones.

In this, the last chapter of this book, we will discuss some of these principles and see how they might apply to common trouble spots of life.

Personality

It is doubtful that any of us are completely satisfied with our personalities. No matter how poised and self-assured we might seem to those around us, each of us desires improvement in some area. "If only I didn't worry so much." "If only I could make friends more easily." "If only I didn't have such a quick temper." "If only I weren't so self-conscious." These and many other "if onlys" cross our minds frequently.

The trouble with most of us is that we wish and leave it at that. We do not rouse ourselves into taking action which might implement those wishes. Despite the best of intentions, we tend to remain very much as we were.

But this does not mean that personality cannot be changed. If the individual is willing to undertake the painful task of seeing himself as he is and the equally difficult one of doing something about it, self-improvement can be achieved.

For the individual who seriously desires to better his adjustment, the first step lies in acquiring self-understanding. This means that one must begin to try to discover why he thinks and acts as he does. He must examine his feelings and attitudes, his characteristics and dominant traits, fearlessly and objectively. He must look into the past in an effort to ascertain the forces and influences which have shaped him.

This type of inquiry is called *introspection*. Sometimes people feel that introspection might be harmful, leading to a morbid preoccupation with oneself. This can happen only if the individual permits his attempts at self-understanding to degenerate into self-pity or futile self-condemnation. Introspection is a profitable adventure when it leads to insights which help one to become a better person. Introspection, then, is a useful tool. It must not become the goal, but only the means through which improvement is eventually derived.

How does one go about this process of self-understanding? There are a number of techniques which can be employed. First, the individual will wish to learn all that he can about human behavior, human emotions, and how personality is developed. The present material is only a start toward this knowledge. The references listed at the end of each chapter can carry the inquiry further. Some of these books may be obtained at the library; many are inexpensive paperbound editions. Also, at the end of the text are listed a number of readily obtainable pamphlets, together with the addresses from which they may be ordered. While reading, watch for insights, new understandings. Now and then, ask the questions, "Is this the way I behave?" "Does this apply to my own life?" "Is this the reason for my reactions?"

The student must constantly seek to become aware of his habitual emotional responses. He must understand that troubles are universal, and that human beings react to troubles in a variety of ways in an effort to protect themselves from inner suffering. He must know that all human beings have ugly emotions as well as lofty ones, that all human beings (oneself included) feel hate, envy, anger, fear and base desires. He must understand, too, that though discovering these feelings in one's self is disconcerting, denying them serves only to give them strength. A major step toward self-understanding is the close, truthful examination of one's own

Self-understanding is the first step toward personality adjustment.

real feelings so that the emotions which have been rejected and pushed back out of consciousness can be recognized.

Self-study should include reflection upon one's past life in the attempt to determine how persistent feelings and patterns of behavior were acquired. The outstanding events of one's life should be reviewed with particular attention to what those events meant—what feelings were aroused by the things that happened. Since we know that the quality of home life plays such an important part in personality development, ask such questions as these: Who was the dominant figure in the family household? How did you feel toward that person? How did your mother and father get along? Did you like one better than the other? If so, why? How did you feel generally toward your parents? Did you feel free to discuss subjects such as sex, religion and dating with your parents? Do you feel free now to discuss such subjects with them?

How did you feel about brothers and sisters? Can you recall situations which were colored by positive or negative emotions?

What other people in your life seem to have influenced your attitudes and feelings?

What were your feelings about family crises—death, illness, financial troubles, arguments, moving to a new location, for example? How did you react to discipline? How do you feel now about that discipline? What aspects of the relationship between yourself and your parents would you like to change for your own children? What are your present goals, both short-term and long-range? How did you arrive at them? Who are the people you most admired as a child? Whom do you most admire now?

This list is in no way exhaustive, but it suggests how to go about pondering the influence of the past upon the present.

Insights can also be gained through examination of one's fantasy life. What themes appear over and over in daydreams? What deep-seated longings do these represent? What prevents you from satisfying these wishes?

We have already learned the importance of unconscious emotions in determining behavior. We can sometimes get a glimpse of our unconscious feelings through the dreams we have while we are asleep. It is not the events depicted which are important, but the feelings recollected as a part or aftermath of the dream. Frequently the emotion recalled will be one of anxiety or fear—a dream in which one tries frantically to escape a threatening object or person, for example. Sometimes the general feeling is one of sadness and you awaken feeling slightly depressed. Occasionally fierce anger or bitter hatred is woven into the events of the dream. The emotional content of the dream hints at the presence of these emotions behind the scenes of consciousness. Once you become aware of the possibility of unconscious hate or anxiety, for example, its subtle manifestation in daily life can be watched for. This may provide the missing clue to some attitude or habit you could not understand or explain.

It is obvious that the kind of self-study here discussed cannot be accomplished in a day or a week or even a month. It is far more likely to take years of patient self-searching. At times the individual is likely to feel depressed and exhausted by the effort, tempted to give up the whole thing and turn attention to more comfortable activity. At times progress may seem to be at a standstill with the reasons for a particular bit of behavior eluding explanation. Occasionally a flash of insight will illuminate the scene, and another piece of the puzzle slips into place. Frequently after such an experience, progress again halts for a while. It is as if the individual requires a certain length of time to "digest" the new view of himself before proceeding forward.

Actually these feelings and experiences are similar to those of a person undergoing psychotherapy. As superficial attitudes and emotions are explored, progress may be uninterrupted. But when sensitive areas of feeling are reached, the patient unconsciously protects himself against the pain of further probing by attempting to stop the search, by becoming hostile toward the therapist or even by breaking off the treatment.

Such reactions should be expected and anticipated by the individual who seriously seeks self-understanding. Resistance indicates the presence of highly charged emotions which must be brought to light before one can continue. Resistance also protects the individual from knowledge about himself which might be too painful to accept; it thus serves the useful purpose of pacing insights to the rate at which one gains enough strength to bear them.

Self-study will reveal strengths and weaknesses, unpleasant aspects of personality and praiseworthy traits. It should uncover the major influences in one's life. It may disclose factors which cannot be changed—protruding ears or a body deformity which has been permitted to affect one's life adversely. (Though the defect itself must remain, the attitudes toward it can be modified.) Self-study should also point out where action can be taken toward improving persistent modes of thinking and behaving. To recognize problems is the first step toward solving them.

The second step, of course, is the difficult matter of making the necessary changes. This is difficult because the present personality has evolved out of the needs and stresses of one's entire life; if behavior is to be changed, new methods of satisfying needs and reacting to stress will have to be discovered and tested.

Take the matter of needs. We already know a little about this area of human existence. We know that in addition to the primary needs which are necessary to life itself, each of us must find (and give) love and affection, must attain a good working balance between needs of independence and dependence and must find wholesome ways of expressing ourselves in creative and productive activity.

Fortunately, in our country, few of us lack the basic necessities of life. Not many of us have had to become preoccupied with a frantic search for enough food to keep alive or adequate shelter from the elements. This is not true of many lands where higher needs have had to give way to the pressing struggle for simple survival. When we tally up the positive aspects of our life, this is certainly one of the rich blessings which must be counted.

The need for love, however, may be quite another story. Sometimes we cannot even admit the longing to be liked. Sometimes suspicion—mistrust—of other people gets in the way. It is as if we said to ourselves, "They won't like me anyway, so I'll dislike them first!" Sometimes we are unreasonable in our expectations, demanding constant sympathy, attention and reassurance from our friends.

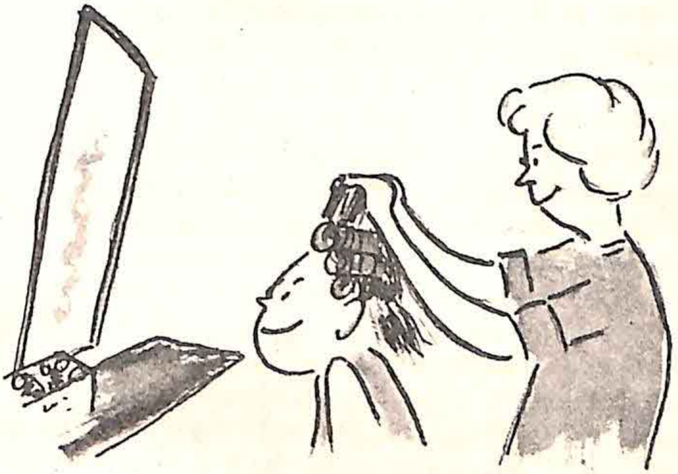
In order to receive the warm affection which makes for successful personal relationships, one must be able to give it. As we have already seen, this ability depends largely upon the quality of love one received in childhood. If the ability to love has been crippled by unkind circumstances, however, we are not necessarily doomed to a lonely life. The ability to love can be learned because the capacity and need are already there.

This will involve management of hate, because hatred—hostility—is always present where love is lacking. First it must be understood that this is a perfectly normal human reaction. If a child is denied the vital food for emotional development in early life, what else can he do but become angry at the world? But with the recognition of inner hostility must come its control. It must not be permitted to spill over and hurt other people. This may be somewhat easier if it is remembered that present-day hostility is always directed at an effigy of the past. The people around us today are not the ones who thwarted our original need for love, although unconsciously we tend to react as if they were. It is time to stop being angry with everybody. Give the people of present-day life a chance. It is a good idea, too, to attempt to let out some of the hostility—with painting or writing or an outpouring of physical effort.

Then, one must actively seek occasions to offer love—not with the expectations of gaining something in return; not keeping tab, "I did something for you, now you must do something for me"—just a genuine offer of kindness with no strings attached.

If the ability to love has been impaired, diligent practice of loving will be necessary to restore it. Rebuffs will be encountered. The friendly smile may be met with an icy stare. The thoughtful act may be rejected. Then it must be remembered that others, too, have problems in this area. Try again at the first opportunity.

We must also be willing to accept love. We must sometimes permit



One must actively seek occasions to offer love . . . and be willing to accept it from others.

others to be the "giver." This is often hard to do. We wonder about the motives behind the kindness. Or to be on the receiving end may make us feel less important. Sometimes it is feared that accepting affection from another means surrender of hard-won independence. Yet each of us has dependent needs, also. Why not practice appreciation of the sympathy and understanding which comes our way? Why not relax and permit ourselves to be protected and taken care of now and then? Allowing someone else to give love and receiving it warmly can bolster another's feeling of importance and satisfaction. At the same time our own deep longings for closeness, tenderness and intimate contact are fulfilled.

Conscious management of inevitable hatreds, and growth in the capacity to give and accept love—these are the keys to successful relationships with others. This is probably one of the chief goals of personality improvement, since happiness itself depends so importantly upon the quality of contacts we build and maintain with those around us.

Still another factor in personality improvement must be mentioned. As we begin to understand the tremendous role of the past in fashioning what we are today, as the forces that shaped our personality are traced back to childhood, we must avoid bitter recriminations against those who played large parts in our lives. We must remember that our parents were products of their own past histories, and that our childhood demands upon our parents were excessive—we expected boundless, perfect love from them. Children have no way of knowing that parents may be burdened with trouble, worried about other members of the family, preoccupied with the weighty business of providing the necessities of life, or that more is being demanded than parents are able to give. As children, we probably interpreted any human failing in our parents as injustice or betrayal, little realizing that no one could possibly live up to the childish picture of god-like perfection. As mature adults we will have to understand humbly that our parents did the best they could under the circumstances. False resentments must be shed if we are to become lovable and loving persons in our own right. It is our privilege to share in the realization that the past need not forever enmesh us, that we can make a clean break in the chain of mistakes which may have haunted generations. But since attitudes toward the world and toward other men and women are built upon the images of mother and father which we carry in our hearts, our feelings toward others are unconsciously determined by the love or hate which predominates in this inner picture. If changes in feelings toward others are to come about, true forgiveness of parents for real or imaginary hurts must occur.

Personality improvement must also take place around a central core of values. Without a philosophical orientation, the individual becomes like a rudderless ship, drifting aimlessly, at the mercy of any breeze or current. The concepts of the dignity and worth of each individual, of one's own responsibilty for the welfare of others and the sense of kinship with all humanity have been embodied in all the great religions of the world. Man alone, of all earth's creatures, ponders the mystery of life and, unless he is content to exist without purpose, must come up with some reasons for being. In order to overcome the greatest loneliness of all, each of us must attain some sense of being a part of the great design which controls the universe. Food for the spirit seems quite as necessary as food for the body in attaining overall well-being. Some obtain their spiritual fare through the teachings of their church. Others find it in contemplation of life's miracles—the changing of the seasons, the vastness of the heavens, the glory of the sunset, the power of the lightning, the quiet peace of a forest pool, the drama of birth and death. Still others enrich their spiritual lives through seeking out the wisdom of the great minds of the ages. However it is obtained, from a personal philosophy of life must come the basic goals, standards and ideas of good which give life meaning and enable us to organize abilities around an effective course of action.

Efforts toward personality improvement must also include attention to needs for self-expression. We must actively seek satisfying activity in which we can be ourselves, in which we can construct, build and attain pleasure out of our own handiwork or efforts. This encompasses all of the activities which "recreate," which engage talents and interests in something worth while. It may be fashioning a dress or baking a high, fluffy cake. It may be whamming a tennis ball straight and true across the net, or propelling a canoe through the waters and sleeping all night under the stars; refinishing a piece of furniture or finding a choice bit of pottery in a musty shop; planting and tending a garden; sketching; creative writing; photography—the possibilities are endless. The spark of creativity lies within each of us. It can be fanned into a useful radiance through productive use of leisure time or extinguished altogether by excessive reliance upon television, movies and other forms of spectator entertainment.

Problems, Stress and Troubles

Every normal life includes conflicts, fears, anxieties and problems. Each one of us will cope with adversity and sorrow, and meet frustrations. But it is not the presence of problems which causes so much unhappiness and even mental illness. It is because of failure to solve the problems that mental well-being is threatened.

The individual's characteristic reactions to stress are closely linked to his entire course of growth and development. In the beginning, as infants, we cannot tolerate stress at all. The infant has no conception of the factors which might interfere with immediate satisfaction of his hunger needs—the fact that his mother wants to finish ironing the shirt she has started, for example. Baby will shriek lustily until he is fed.

A large part of growing up, however, is the gradual comprehension of the realities of the environment. We begin slowly to realize that many desires cannot be satisfied immediately, and that some cannot be satisfied at all. The year-old child may "cry for the moon," but by the time he is two he knows rather well that the pretty bauble is not as his disposal.

In addition to this gradual understanding of the limitations which reality places upon desires, we also begin to sense that some portions of the environment may be manipulated to achieve our purposes. Once we stood at the sink and cried for a drink of water. A little later we learned to move a chair over and stand on it in order to reach the faucet. We begin to learn to solve problems—to surmount the barriers which interfere with our needs.

This entire process of learning to know the physical and social realities, and the use of developing physical and mental abilities to search for and possibly find solutions to problems, is very complex and of great importance to later life. Just as the baby wants immediate satisfaction of his needs, the immature personality in later life cannot tolerate delay. Those of us who have never grown up are preoccupied with self-centered desires of the moment, finding it impossible to plan ahead and sacrifice present desires for larger future gains. Such individuals find the "Buy now, pay later" plans irresistible and often find themselves overwhelmed with debt on items purchased with blithe disregard of the financial obligations involved.

Others were never permitted to test their powers of problem solving. Their mothers jumped to assist them at each opportunity, and now they constantly seek aid for even the minor tasks confronting them.

Still others of us failed too often. Parents may have set standards which were too high and we became discouraged, despairing of our ability ever to do anything right.

Learning to solve problems, together with emotional attitudes toward them, and the patterns of reaction to success or failure are thus seen to be part of the learning which takes place in early childhood. As a part of the process of growing up we have learned (or failed to learn) a feeling of adequacy—a confidence in our own ability to tackle and solve problems. We learned (or failed to learn) to accept delay in the satisfaction of some desires. Most of us learned to accept a certain amount of frustration, and we all acquired methods of coping with the tension which arises from it.

If present techniques of problem solving are inadequate, therefore, new ones can be learned. If we tend to "go to pieces" in the face of stress, if we constantly feel inadequate or inferior, if we fail more often than we succeed, if we have become aware that our defense mechanisms are not yielding real satisfactions, or if we seem to be beset by many more problems than are the normal lot of mankind, perhaps there is a need to work at improving our ability to overcome obstacles.

In order to be solved, problems must first be recognized. Often, in thinking about a problem, it helps to set it down in black and white, to write it out as you see it, describing its nature and the goal which it is hindering. In the case of a conflict situation, the "pros and cons" might be listed on opposite sides of the paper. This approach helps to "objectify" the problem—sets it up outside the inner turmoil and assists the search for possible solutions.

Sometimes, of course, help is needed to analyze a problem. We have already seen how the unconscious affects behavior. When the main components of a problem are unconscious, professional assistance may be necessary to fill in the gaps of conscious knowledge. If a problem is persistently baffling and troublesome, to ask for help is the better part of wisdom. A good place to start might be a faculty adviser or family doctor or clergyman, many of whom have had psychological training. Such individuals may be able to suggest where the necessary assistance can be obtained if they are not able to provide it themselves.

Once the problem is analyzed and possible solutions are considered, the next step consists of testing the suggested remedies. Frequently, of course, problems cannot be entirely solved. If one's parents are adamant in their opposition to a proposed marriage, for example, and all avenues of possible reconciliation of the conflict have been tried, one may have to make his own decision, keeping in mind that the parents may have good, sound reasons for their judgment, and weighing this accordingly. Sometimes a compromise might be made—a postponement of the marriage with the understanding that the objections will be withdrawn after a certain agreed upon length of time.

There will be problems which admit of no immediate solution. This must be accepted as one of the facts of life. Suppose the problem is a large nose. If every practical solution of this problem has been eliminated, then perhaps the best approach is to give up gracefully and make the best of the handicap. Techniques of hair styling and make-up might be learned which will minimize the offending feature. Instead of worrying and fretting over a situation which cannot be changed, "crying for the moon" like a child, one might better turn his energies to the development of personality assets and abilities. These can bring the satisfactions now frustrated. The toleration of a certain amount of failure is one of the hallmarks of maturity. The ability to divert the energies into other worthwhile channels will, by bringing about substitute gratifications, promote emotional stability. Furthermore, the ability to "bounce back" in the face of failure is, like problem solving, a skill which must be learned. Therefore each successful adaptation to failure will lead to increased flexibility under the inevitable stresses of life.

Troubles, problems and conflicts can thus be viewed as a means of helping us come to see ourselves as adequate, capable and worth while. Each problem solved, each frustration overcome, not only increases self-esteem but also provides practice in approaching future problems. Problems, conflict and even failure can help us to grow more mature as grown-up ways of surmounting the barriers which block attainment of grown-up satisfactions are sought.

Personal Appearance

"Beauty is only skin deep." "Handsome is as handsome does." Sometimes we bolster an indifference to our own personal appearance with such truisms. But these old folk sayings are only partly true. It is, of course, a fact that a beautiful face may temporarily blind us to a shallow, self-centered person behind it, but it is also a fact that personal appearance tends to reflect the inner attitude toward one's self. Stringy hair, unkempt clothes, slovenly posture and ragged fingernails all point to a lack of pride in the exterior presented to the world. Since personal appearance forms the basis for the initial judgment others form of us, the world is likely to accept this low evaluation of ourselves. Even the sunniest of personalities would have difficulty breaking through such a first impression.

Our bodies serve as symbols of ourselves. Those who desire self-improvement should therefore give attention to personal habits of health, attire and grooming. Few of us possess true physical beauty, but each of us can have clean and shining hair arranged in a becoming fashion. Few of us can look like pictures out of *Vogue*, but our clothes can be neat and in good taste. We need not be make-up experts in order to avoid garish effects, nor do we need personal maid service to eliminate soiled shoulder straps, crooked stocking seams, run-down heels and uneven hemlines.

Furthermore, we all know the simple rules for radiant health. We can make sure of receiving adequate sleep, a well-balanced diet of wholesome food, and physical exercise out of doors.

Achievement of a well-groomed "just stepped out of a bandbox" look is within reach of any individual. Magazines and newspapers abound with articles on artful use of make-up, hair styling, skin care and the wise selection of clothes on a limited budget. Fifteen minutes a day will suffice for the 100 brush strokes, care of nails, pressing wrinkled garments, polishing shoes and minor mending jobs.

Since personal appearance is one indication of general physical and emotional well-being, efforts to improve in this direction will almost surely be rewarded with increased self-esteem and favorable responses from others.

Relationships with Others

Self-study, the efforts to improve one's personality, learning to contend with troubles and problems and regular attention to personal appearance are all important to mental health. But these are not enough. While they will contribute to the quality of relationships with others, we shall also need to make a conscious effort to interact with others, both singly and in groups.

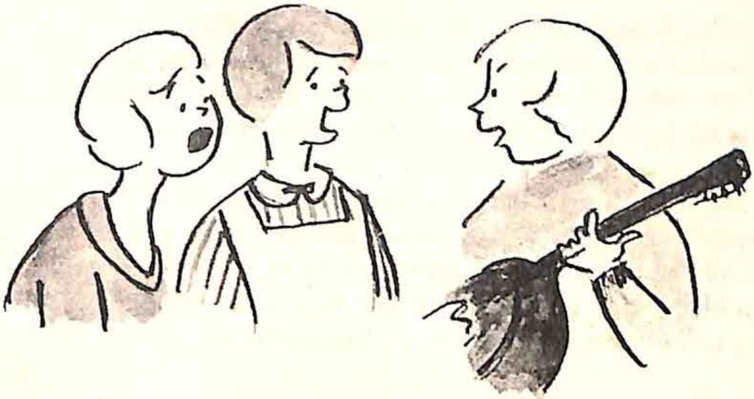
This does not mean becoming a "joiner," the kind of individual who claims membership in dozens of organizations but fails to achieve a sense of belonging from any of them. Social relationships have significance for emotional good health only if we are comfortable and feel accepted, if we have a sense of participation with the group or individual.

How does one go about securing this sense of belonging, of securing acceptance from others, of developing warm and satisfying friendships? A piece of ancient wisdom, the Golden Rule, offers a hint.

Just as we ourselves have needs, so do all other human beings. Just as we ourselves are concerned with their fulfillment, so is each and every person around us. We can help ourselves to friendship by remembering that the other person, too, may be struggling with feelings of inadequacy and self-consciousness. Rather than sinking in our own fears of what the newcomer may think, perhaps we should concentrate upon his needs. Perhaps we could bend our efforts toward making him feel more comfortable.

Cultivation of sensitivity to the needs of others can be consciously practiced. Awareness of our own needs will help us understand sympathetically. Just as we blossom when someone is sincerely interested in us, so will others feel good and at ease when we show genuine interest in them.

The deep psychological wisdom of the Golden Rule, of course, lies



Interaction with others is necessary for mental health.

in the fact that it operates both ways. As we help fulfill another's needs, his responses tend to fulfill our own. As we give freely of ourselves to an individual or group, we receive the sense of shared activity which is the basis for wholesome personal relationships. As we earnestly attempt to help another feel less anxious, our own anxieties are lightened. As we demonstrate friendship for others, they will offer friendship in return.

Mental Health

It should be clear from the foregoing discussions that mental health is not a final state of being. It is not a fixed point at which one finally arrives. We cannot say, "Today I have achieved mental health!"

Mental health must be thought of as a continuing process in which most of the individual's needs are being met, he is accepting frustration without resort to harmful defense mechanisms, is generally effective and productive, is engaging in satisfying relationships with others and is using life's problems to attain greater wisdom. Attempting to improve one's own vital balance, then, is a lifetime project, to be carried out through all of the varying circumstances, environments and roles of one's life cycle.

The importance of such a project for each of us is given startling documentation by the statistics on mental illness. It is estimated that almost one in every sixteen Americans is suffering from some form of mental disorder, and that about one out of four families will have at least one member hospitalized for mental illness at some time or another. Mental illness is believed to be the nation's foremost health problem, outranking heart disease and cancer as a cause of suffering and loss to society.

Hope for the future must come from several areas. It must come from education. We need widespread understanding of the nature, causes, and prevention of mental illness. It must come from intensive research. We must do the best we can with our present knowledge, which only touches the fringes of a vast, unexplored territory, while searching for better methods of treatment and surer means of prevention of mental illness. Hope depends also upon increased facilities: more hospitals, more psychiatrists and psychologists, more psychiatric nurses and trained attendants.

In the meantime, each of us acquiring some insights in this field carries a responsibility to try to make sure we never add to the emotional burdens of someone else, to endeavor to become more emotionally mature ourselves, and to contribute our best to society's efforts toward developing wholesome, rational, moral human beings.

Summary

1. Self-improvement cannot be accomplished easily. There are no magic cures for troubles, no quick self-help recipes. However, each of us can gain more self-understanding and insights regarding our behavior if we are willing to undertake the long, arduous search.

2. Self-study should include:
   a. Introspection—"looking inside" in the effort to discover the underlying feelings and attitudes behind behavior
   b. New learning—the continuous search for more information about human emotions, human development and human behavior
   c. Examination of one's own developmental history
   d. Examination of fantasy life and dreams
   e. Attempts toward rational, conscious fulfillment of needs
   f. Attempts to develop wholesome coping devices, particularly those involving vigorous physical activity for working off inevitable angers
   g. Development of a personal philosophy of life

3. Problems, stress and troubles should be viewed as providing valuable practice in dealing with future difficulties.

4. Personal appearance tends to reflect our own self concept. Attention to rules for health, careful grooming and the selection of clothes that are in good taste are steps that can be taken by anyone, no matter how limited her budget.

5. Relationships with others can be improved through conscious practice of sensitivity to their needs and attempts to fulfill them.

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